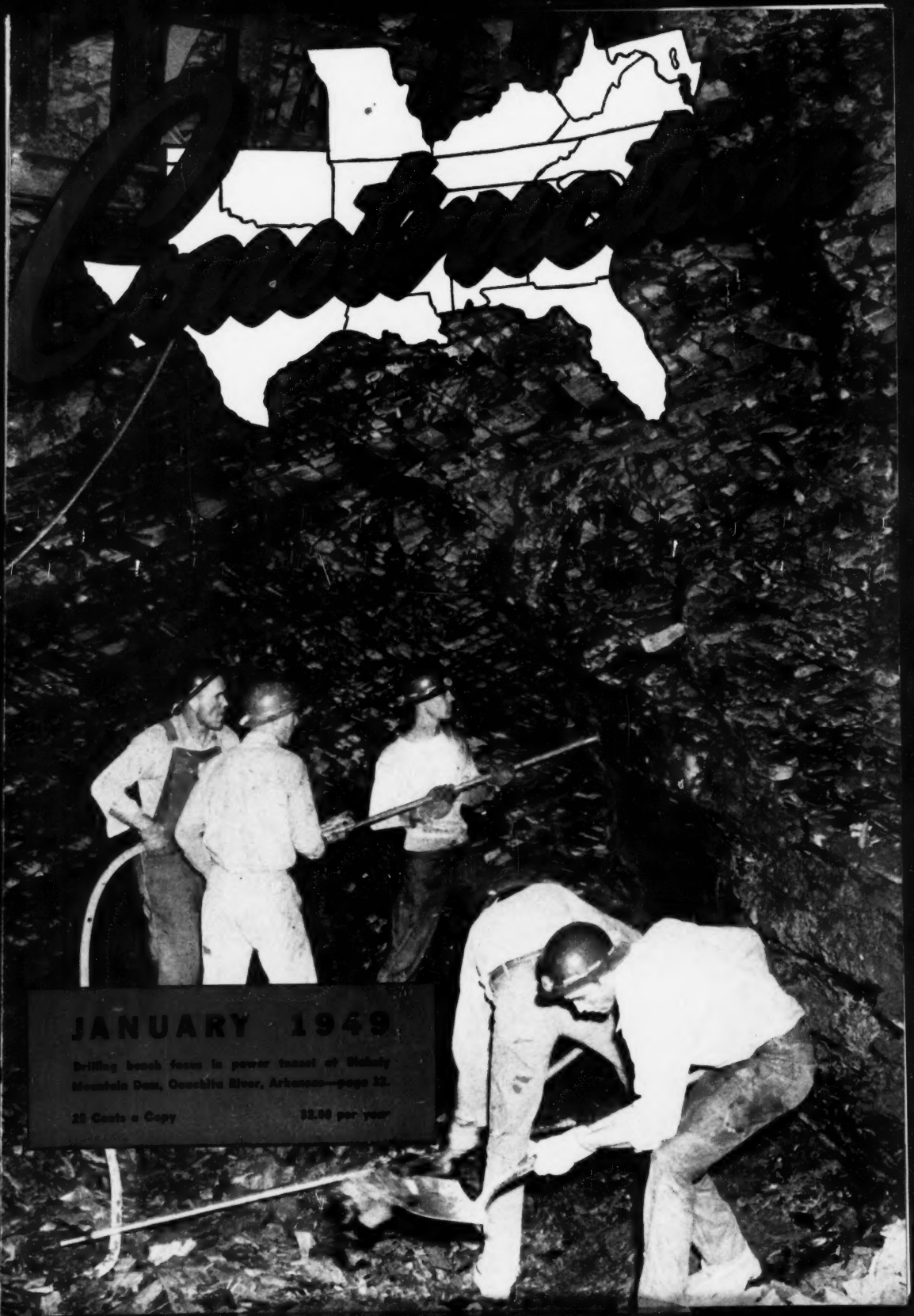
Southwest Builder



JANUARY 1949

Drilling bench faces in power tunnel at Blakely Mountain Dam, Ouachita River, Arkansas—page 32.

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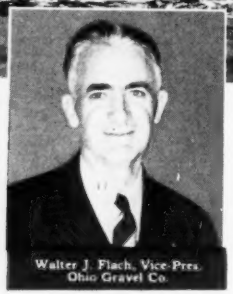
OHIO GRAVEL CO. likes TELSMITH *Complete plant service*



Walter J. Flach, Vice-Pres. Ohio Gravel Co.

● One of the largest and most successful operators in the United States, the Ohio Gravel Co., Cincinnati, Ohio, has six large plants serving southern Ohio, Indiana and Kentucky. All are in the Cincinnati area — at Cleves, Miami, Miamiville, Newtown, Red Bank . . . and the latest all-Telsmith plant at Camp Dennison. The latter is designed for a large output of 100% crushed chips.

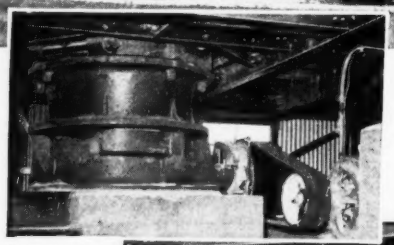
Company management is in the capable hands of Fred W. Cornuelle, President; and Walter J. Flach, Vice-President, who is in charge of plant operations and new plant construction.

Heretofore Mr. Flach has designed the plants himself, personally selected all equipment, and purchased it from several leading machinery makers. This new plant is an exception. Mr. Flach decided to try a complete gravel plant service . . . and chose Telsmith. He is very pleased with results.

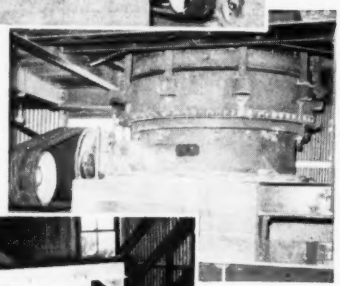
Mr. Flach gave his ideas and his preliminary layouts to Telsmith engineers. After analyzing his requirements, Telsmith submitted preliminary drawings with equipment recommendations, secured Mr. Flach's approval, then made detailed drawings for the complete plant. Telsmith equipment units were matched and balanced to assure a smooth-running plant.

Mr. Flach found that Telsmith Service relieved him of a great deal of technical detail. Installation was simpler, easier and faster. Telsmith Complete Plant Service means larger capacity, with a better product, at lower cost.

Telsmith's more than 40 years of engineering know-how are at your disposal. Consultation without cost. Send for Bulletin G-50.



Telsmith 13-B Gyratory Crusher



Telsmith 48" Fine Crushing Gyrasphere

One of the two Telsmith 4' x 12' Double Deck Vibro-King 2-Bearing Finishing Screens

G-15R

TELSMITH Equipment in this plant

● 30" x 5'-6" Special Plate Feeder ● 25" x 36" Roller Bearing Jaw Breaker ● 30" x 179' Plant Belt Conveyor ● 5' x 12' 2-Deck Pulsator 4-Bearing Scalping Screen ● 13-B Gyratory Crusher ● 48" Fine Crushing Gyrasphere ● No. 8 Belt Elevator 76' ctrs. ● Two 4' x 12' 2-Deck Vibro-King 2-Bearing Finishing Screens ● Four 16" x 18" Squad Bin Gates ● 24" x 279' Stockpiling Belt Conveyor with Tripper

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Here's rock—the kind of rock that really tests a shovel day in and day out. This is another *Key Machine* spot that calls for the best in equipment. Your Northwest is built for the *Key Machine* spots. It's built to make money. Northwest brings you a combination of advantages found in no other Shovel, Crane, Dragline or Pullshovel . . . advantages that make it a real Rock Shovel—and when you have a real Rock Shovel you *never* have to worry about output in easy digging.

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NORTHWEST ENGINEERING COMPANY
135 South LaSalle Street, Chicago 3, Illinois

- Simplicity of design for easy maintenance.
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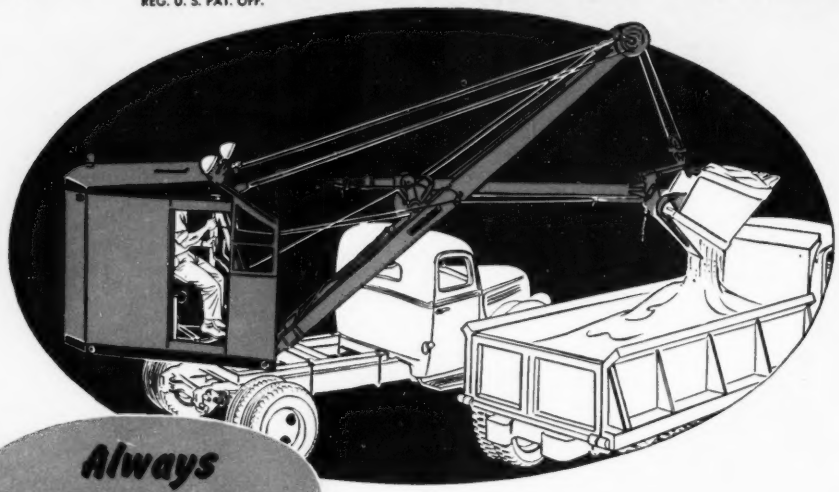
"QUICK-WAY" TRUCK SHOVELS

REG. U. S. PAT. OFF.



Always DEPENDABLE

Yes, "QUICK-WAYS" are dependable—and economical, quick and profitable to you. "QUICK-WAY'S" accurate balance and strength with light weight permit higher travelling and working speeds, more yardage per day. Simplicity of design and quality steel construction give longer working life, lower operating and maintenance costs, lower initial cost and easier servicing. There's a "QUICK-WAY" owner near you, ask HIM.

1 **Wherever a truck can go, and at truck speed, that's where you can take a "QUICK-WAY." Low center of gravity and proper balance does it.**

2 **Speed on the job moves more material per day at less cost—a "QUICK-WAY" gets around *fast*.**

3 **First in the field and still the leader, "QUICK-WAYS" have gotten around more and longer than any other truck mounted power shovel.**

"QUICK-WAY" TRUCK SHOVEL CO., DENVER, COLO.

Service available from our distributors strategically located throughout the United States and worldwide

Model E: 4/10 cu. yd. cap., for mounting on any standard 5-ton truck.

Model J: 1/4 cu. yd. cap., for mounting on any standard 1½-ton truck.

"QUICK-WAY"

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Contents

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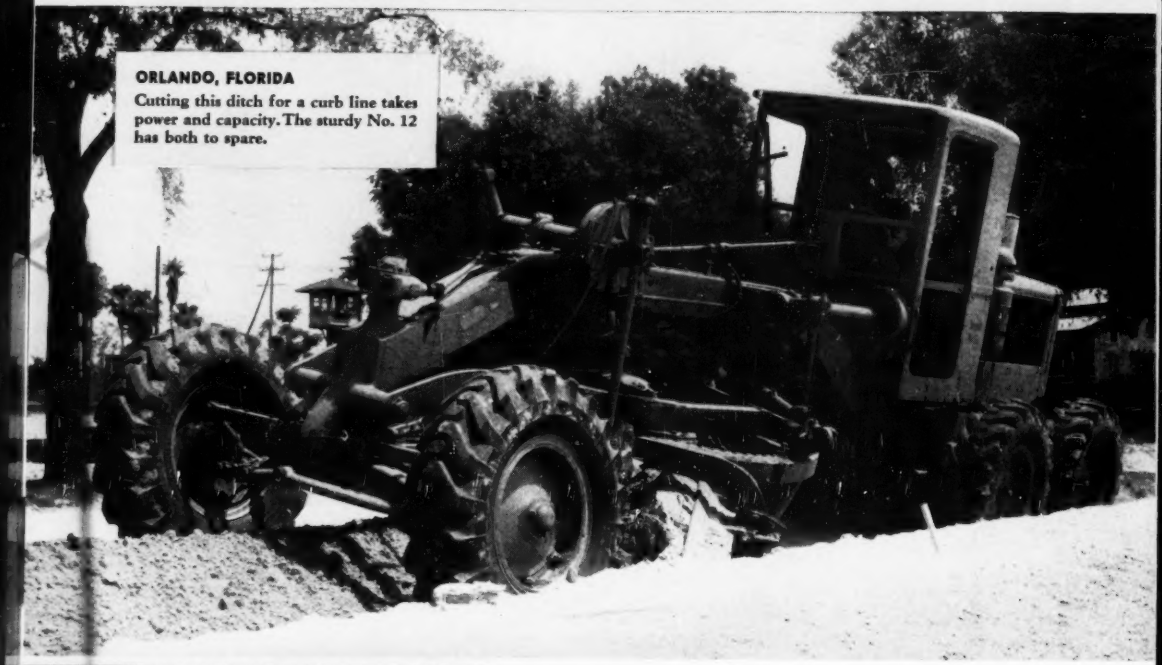
These money-making



ORLANDO, FLORIDA
Cutting this ditch for a curb line takes power and capacity. The sturdy No. 12 has both to spare.

SANTA FE DAM, CALIF.
Grading a haul road for heavy trucks on top of the dam, the No. 12 leaves a smooth surface in rocky material.

BALTIMORE, MARYLAND
Setting the pace for the paver, the No. 12 moves right along finishing final grade on the Philadelphia road.

RAMSEY COUNTY, MINN.
Keeping good roads good — another chore for the No. 12, windrowing on oil mix for stabilizer base.

BERTHOUD PASS, COLO.
8000 feet up! This new road requires fine, accurate finishing. The No. 12 "can do" within ¼ inch.

motor graders

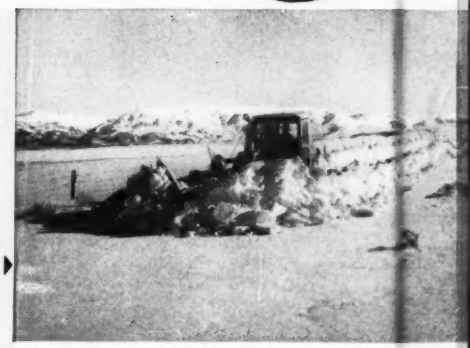
sure get around!

ALL YEAR AROUND, on hundreds of construction and highway jobs, you'll see these husky one-man "Caterpillar" Diesel Motor Graders tackling a wide range of tasks. In scorching heat and bitter cold, they have the rugged stamina for heavy grading, as well as the accuracy for fine finishing. Designed and built entirely by one manufacturer, they're all "Caterpillar"—front axle to radiator cap. And they're sold and serviced by one reliable, well-equipped dealer. The advantage is all yours with these hard-working money makers in your line-up.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

GRAND COULEE DAM, WASHINGTON

Relocating a highway calls for bankaloping, ditching, grading. That's duck soup for the No. 12.



IDAHO FALLS, IDAHO

150 miles of Bonneville County road to keep clear. Equipped with V-type snow plow and wing, the No. 12 does the job.

CENTRAL VALLEY, TRACY, CALIF.

The versatile No. 12, besides maintaining haul roads, is also used for smoothing canal bed ahead of a Monighan.

WASHINGTON COUNTY, COLORADO

A No. 12 widens and rebuilds as much as one mile of road a day.

CATERPILLAR

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DIESEL

ENGINES • TRACTORS • MOTOR GRADERS

EARTHMOVING EQUIPMENT

Now! IT'S THE BD-3

A 4th DIESEL MOTOR GRADER JOINS THE ALLIS-CHALMERS LINE*

MOST POWERFUL MOTOR GRADER IN ITS CLASS

78 BRAKE HP. — 19,042 LBS.

2-Cycle GM Diesel Engine

A CONSTRUCTION MACHINE THROUGH AND THROUGH

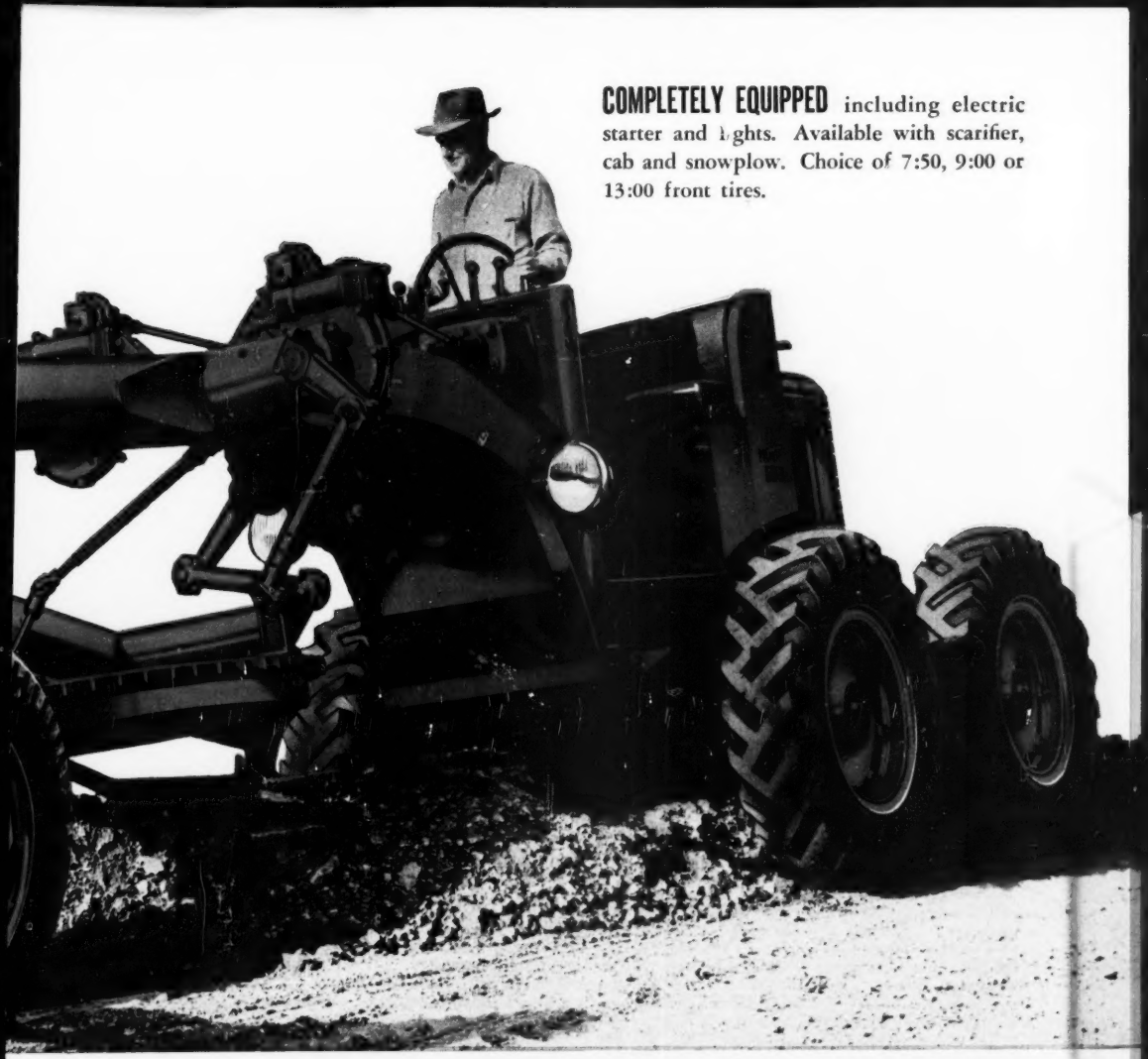
Handles every type of grading on road or street construction—builds ditches, cuts backslopes, removes sod, shapes up and finishes surface . . . scarifies, mixes blacktop, plows snow.

FAST, HIGHLY MANEUVERABLE

- Six Forward Speeds — 2.21 to 15.58 m.p.h. . . . Three Reverse — 2.64 to 5.74 m.p.h.
- Travel speeds smoothly synchronized with operator controls . . . all the needed power applied as required.
- Easier to steer and maneuver on every type of job — shorter turning radius makes it ideal for narrow roads and streets.

***OTHER ALLIS-CHALMERS DIESEL-POWERED MOTOR GRADERS**

AD-4, 104 Brake hp. . . . 22,140 lbs. AD-3, 78 Brake hp. . . . . 21,835 lbs.
BD-2, 50.5 Brake hp. . . . 17,772 lbs.



COMPLETELY EQUIPPED including electric starter and lights. Available with scarifier, cab and snowplow. Choice of 7:50, 9:00 or 13:00 front tires.

PATTERNED AFTER THE POPULAR MODEL AD MOTOR GRADER

STRONG — exclusive tubular frame . . . absorbs shocks, protects control rods inside frame.

ACCURATE — cuts smoothly, blade held firmly on road through direct down pressure.

HIGH CLEARANCE — 28″ throat clearance for handling bigger windrows without interference.

"ROLL-AWAY" MOLDBOARD — less power required to handle bigger windrows at faster speeds. Material is rolled, not pushed.

FULL CIRCLE REVOLVING BLADE — swings 360° . . . enables operator to grade either forward or reverse.

FULL RANGE OF BLADE POSITIONS . . . plus leaning front wheels, for handling all types of grading with ease.

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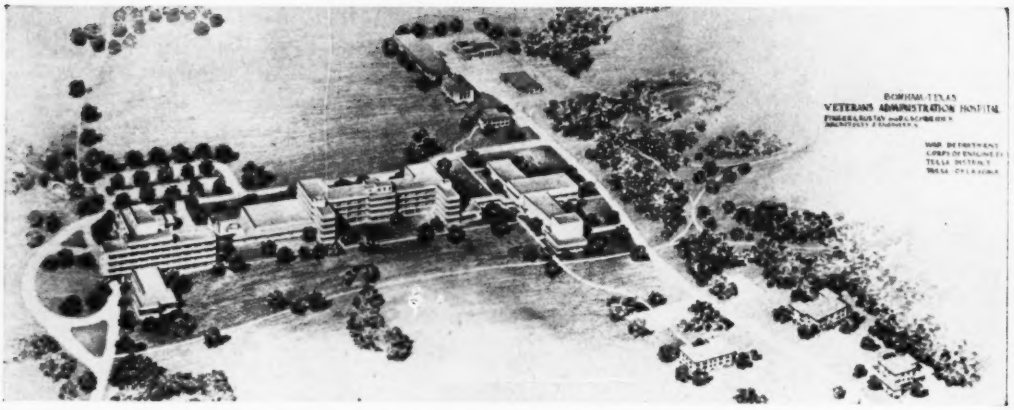
TRACTOR DIVISION — MILWAUKEE 1, U. S. A.



Above—Bids will be opened January 20 by Col. C. H. Chorpening, district engineer at the Tulsa, Okla., office of the Corps of Engineers for the 350-bed veterans' hospital to be erected at Bonham, Texas. Principal features include a main hospital, a domiciliary building, recreation and theatre building, manager's residence, staff apartments, nurses' quarters, male attendants' quarters, boiler, laundry and storage building, garage, utility shop, pump house, elevated water tank, site improvements and an electrical distribution system. Buildings, with exception of the quarters buildings, will be brick and hollow tile. The quarters will be brick veneer.

$2,830,000,000 for Southern Contracts Last Year is All-Time Record in Peacetime

TWO billion, eight-hundred-thirty million dollars—the largest peacetime expenditure in southern construction history—was written into the record during the twelve months of 1948.

Almost forty-three per cent ahead of the value placed on construction in the sixteen states of the South during the preceding year, the 1948 total approached the figure for 1941 and was only one hundred million dollars below the aggregate for 1942, those years when all-time peaks were registered.

The high valuation in 1948 climaxed a gradual ascent during the half decade dating back to 1944, the year when wartime regulations and shortages had forced construction down to the low of $834,532,000. Southern construction in the next twelve months represented an expenditure of $1,134,416,000, rising to $1,797,532,000 in 1946, to $1,984,184,000 in 1947 and to $2,830,038,000 for the year just ended.

That 1948 was to be a banner year was evident right from the start. January's $174,091,000 was twenty-four per cent ahead of the comparable month of the preceding year. February's $220,569,000 represented an increase of twenty-seven per cent, with March rising sixteen per cent to be the second highest post-war total. Subsequent months after April's $213,213,000 saw still larger totals.

The May figure was $270,644,000, the second highest for the year. Totals for the next three months ranged through June's $246,762,000 and July's $222,061,000 to the year's low of $169,406,000 registered in August. From then on totals were among the year's strongest. In September, it was $251,659,000; in October, $225,308,000; in November, $253,689,000. December's $325,637,000, bolstered by several pipeline awards was the peak.

Public construction last year outweighed private work by $187,696,000, or about twelve per cent. The public figure was $1,508,867,000, embracing $629,349,000 for public building, $410,325,000 for public engineering work and $469,193,000 for highways and bridges. In the $1,321,171,000 private total were the $733,200,000 for private building and the $587,971,000 for industrial construction.

SOUTH'S CONSTRUCTION BY TYPES

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948	Contracts Awarded Twelve Months 1947
PRIVATE BUILDING				
Assembly (Churches, Theatres, Auditoriums, Fraternal)	$11,383,000	$17,905,000	$124,407,000	$43,184,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	5,017,000	12,740,000	104,310,000	63,967,000
Residential (Apartments, Hotels, Dwellings)	40,246,000	38,134,000	460,313,000	349,251,000
Office	5,354,000	3,640,000	44,170,000	39,588,000
	$62,000,000	$72,419,000	$733,200,000	$495,990,000
INDUSTRIAL	$134,985,000	$369,175,000	$587,971,000	$392,612,000
PUBLIC BUILDING				
City, County, State, Federal and Hospitals	$39,462,000	$47,944,000	$274,850,000	$146,798,000
Schools	25,262,000	156,638,000	354,499,000	202,058,000
	$64,724,000	$204,582,000	$629,349,000	$348,856,000
ENGINEERING				
Dams, Drainage, Earthwork, Airports	$14,516,000	$95,376,000	$203,449,000	$198,944,000
Federal, County, Municipal Electric	4,122,000	42,943,000	64,619,000	19,281,000
Sewers and Waterworks	9,456,000	31,600,000	142,257,000	95,717,000
	$28,094,000	$169,919,000	$410,325,000	$313,942,000
ROADS, STREETS AND BRIDGES	$35,834,000	$24,730,000	$469,193,000	$432,784,000
TOTAL	$325,637,000	$840,825,000	$2,830,038,000	$1,984,184,000

Private Building Rises

Private building with its $733,200,000 was the highest among the five categories, representing more than one-quarter of the entirety. The $629,349,000 of public building is twenty-three per cent of the total; the $587,971,000 industrial total, twenty-one per cent. Sixteen per cent, or $469,193,000 was for highway and bridge contracts. The balance, or fourteen per cent, was the engineering construction total of $410,325,000.

Embraced in the private building for the year were $460,313,000 for residential construction. This was thirty-two per cent above the value of residential construction recorded in the comparable period of last year. Assembly buildings with the

$124,407,000 total were up one hundred eighty-eight per cent; commercial building, total $104,310,000, up sixty-three per cent, and office building, total $44,170,000, up eleven per cent.

Public building has increased eighty per cent when compared with such work placed under contract last year. The $629,349,000 included $274,850,000 for buildings and hospitals and $354,499,000 for schools. Industrial construction valued at $587,971,000 last year showed a thirty-three per cent rise.

Engineering construction has risen over thirty per cent. The total for 1948 was $410,325,000; for 1947, $313,942,000. Most of the increase occurred in the fields of government electric projects and sewer and water work. Sewer and water work with its $142,257,000 total was fifty-nine per cent ahead. Government electric work is now three times last year's volume.

Dams, drainage, and earthwork and airport work remained at practically the same level. The increase shown by the $203,449,000 total of 1948 for such work was about two per cent higher than in the preceding year. The gain in highway construction value last year, when the total for the South was $469,193,000, was eight per cent over the $432,784,000 of 1947.

December Total $325,736,000

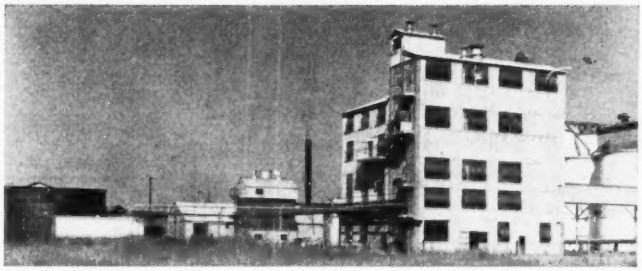
December's $325,736,000 embraced $134,985,000 for industrial construction, $64,724,000 for public building, $62,000,000 for private building, $35,824,000 for highway and bridge work and $28,094,000 for heavy engineering and government electric projects. Industrial contract value was up due to the big pipeline work, while the rest of the construction picture showed losses.

The 1949 construction outlook for the country, in which the South participates proportionately, was forecast by Dwight W. Winkelman, president of the Associated General Contractors, at about the same level as that prevailing last year. There may be some drop in the high rate of industrial and public utility construction, he said, but this will probably be offset by an increase in public construction.

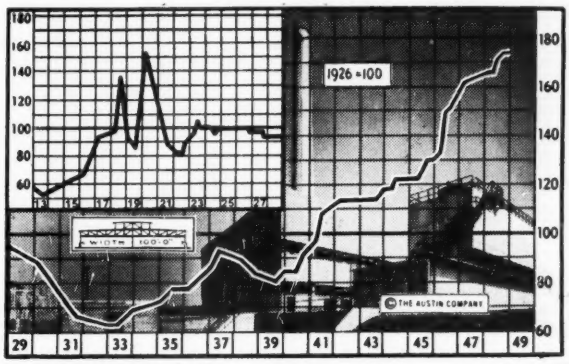
$18,000,000,000 Next Year

The A. G. C. head estimated the country's new construction last year at $18,000,000,000 to which he added $6,000,000,000 for maintenance and repair operations. Unless there are serious upsets to our economy, he observed, there should be a large volume of construction

(Continued on page 68)



Above—Soybean oil extraction plant erected at Tiptonville, Tenn., by the West Tennessee Soya Mill, Earnest Rice, president. Process engineering was handled by Allis-Chalmers Manufacturing Co., Milwaukee, Wisc., which also supplied the equipment including machinery for bean preparation, oil extraction, solvent recovery and meal conditioning.

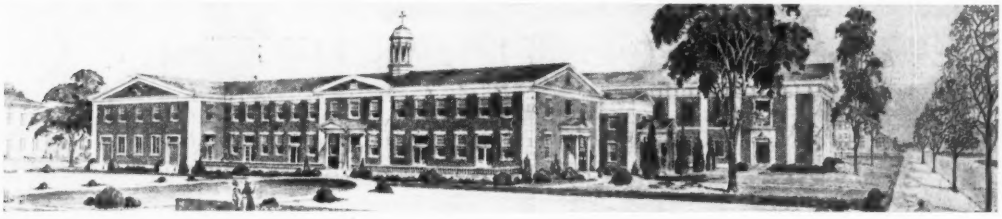


Above—The industrial building cost at the end of the year stood at 174, unchanged since the third quarter of 1948 and less than five and one-half per cent above the level of a year ago, it was announecd by Austin President, George A. Bryant.

SOUTH'S CONSTRUCTION BY STATES

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948	Contracts Awarded Twelve Months 1947
Alabama	$4,582,000	$76,157,000	$129,906,000	$54,608,000
Arkansas	2,535,000	9,205,000	78,781,000	53,306,000
District of Columbia	7,944,000	6,605,000	46,530,000	45,367,000
Florida	19,472,000	18,175,000	271,387,000	227,468,000
Georgia	9,151,000	81,029,000	123,294,000	176,611,000
Kentucky	5,929,000	8,278,000	64,586,000	34,723,000
Louisiana	26,988,000	13,535,000	234,391,000	179,482,000
Maryland	12,114,000	68,575,000	203,656,000	169,043,000
Mississippi	10,984,000	27,821,000	80,974,000	66,451,000
Missouri	21,743,000	14,370,000	134,896,000	82,684,000
North Carolina	7,166,000	126,832,000	146,903,000	85,541,000
Oklahoma	27,430,000	17,693,000	122,420,000	43,654,000
South Carolina	26,237,000	5,817,000	106,724,000	61,736,000
Tennessee	21,826,000	66,000,000	150,345,000	54,255,000
Texas	102,940,000	261,796,000	750,656,000	551,657,000
Virginia	11,156,000	16,401,000	112,467,000	63,295,000
West Virginia	8,346,000	22,444,000	72,144,000	34,353,000
TOTAL	$325,637,000	$840,825,000	$2,830,038,000	$1,984,184,000

Below—Wise Contracting Co., Richmond, is proceeding on this $425,000 addition to the First Baptist Church in the Virginia Capital. J. Binford Walford and O. Pendleton Wright, also of Richmond, are the architects.



New

UNIT 1520

Self-Propelled

RUBBER-TIRED CRANE

15 TON CAPACITY

This 50,000 pound Mobile Crane is a completely new member of the UNIT Crane and Shovel line. Designed for both "on and off" highway operation. So compact, it works efficiently even in small, cramped quarters, "in or out" of the yard.

- Rugged . . . Perfectly Balanced
- Hook Roller Construction
- Controlled and Operated by ONE Man
- Powered by ONE Engine
- Hydraulic Steering . . . Air Brakes and 4 Speed Air-Actuated Transmission
- Heavy Duty, yet operated with remarkable SPEED . . . SAFETY . . . ACCURACY . . . ECONOMY!

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6303 W. BURNHAM STREET
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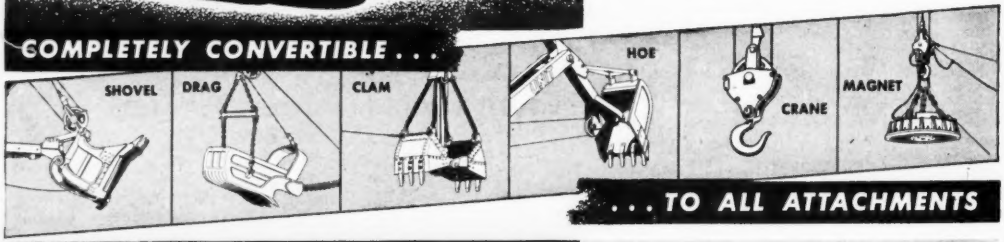
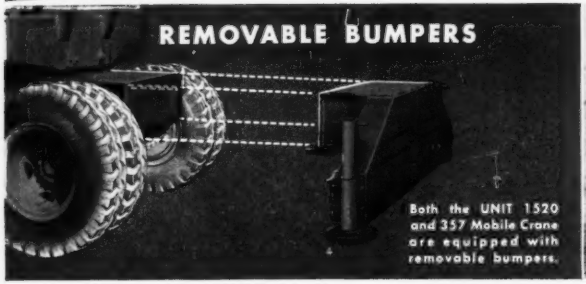
COMPLETELY CONVERTIBLE . . .



. . . TO ALL ATTACHMENTS

REMOVABLE BUMPERS



Both the UNIT 1520 and 357 Mobile Crane are equipped with removable bumpers.

WITH SHOVEL ATTACHMENT
• Self-Propelled • Rides on Rubber • Has 1001 Uses

Greater digging efficiency is attained in excavating by removal of one bumper. Permits additional space to lower boom, thus increasing digging depth in trenching or other excavating jobs. Provides close-range operation on shovel work. Bumper is bolted to undercarriage frame and its removal is a simple operation.

You can tell it's a UNIT by the FULL VISION CAB. There's no other cab like it.

SHOVELS • DRAGLINES • CLAMSHELLS • CRANES • TRENCHOES • MAGNETS

Above—Robert E. McKee, of Dallas, submitted the $18,317,000 low bid for the Houston, Texas veterans' hospital pictured above, with Westinghouse Electric Corp., elevator division, the low bidder at $470,380 for elevators and dumbwaiters and Chicago Bridge & Iron Co., low at $95,100 for the elevated water storage tank. The project is to be carried out on a 200-acre site near the naval hospital and southeast of the $100,000,000 Texas Medical Center. It involves 23 buildings and will provide 1,089 beds for general hospitalization and rehabilitation of war veterans.

Southern Construction Projects

INDUSTRIAL

Proposed Stage

ALABAMA — Southern Natural Gas Co., Birmingham, has Federal Power Commission authority to construct and operate additional main and branch loop lines in Alabama, for transportation of natural gas; $865,100.

ALABAMA — Alabama Power Co., 600 N. 18th St., Birmingham, Ala., adding new capacity totaling 145,000 kilowatts to its system next year, as part of the $57,000,000 construction program for the three-year period ending in 1950.

GREENVILLE — Pioneer Electric Cooperative has REA loan, $675,000 for 268 miles line system improvements, and two-way radio communication system; Ala, 22P Butler.

HARTSELLE — Joe Wheeler Electric Membership Corp. has REA loan, $1,985,000 for 740 miles line system improvements.

LISTERHILL — Reynolds Metal Co., plans expansion of its aluminum sheet rolling plant; will expend $5,000,000 for expansion of facilities at the Alabama plant and also in Chicago.

ARKANSAS

FAYETTEVILLE — Ozarks Rural Electric Cooperative Corp. has REA loan, $605,000 for 199 miles line, headquarters facilities, etc.

PINE BLUFF — Paul Finkbeiner, owner and operator of Finkbeiner Packing Co., plans for $750,000 meat plant.

SALEM — North Arkansas Electric Cooperative, Inc., has REA loan, $1,300,000 for improving present lines.

SALEM — North Arkansas Electric Cooperative has REA loan, $1,390,000 for 572 miles of line system improvements.

KENTUCKY

HENDERSON — City approved $3,000,000 bond issue for electric power plant.

OWENSBORO — Southern Bell Telephone & Telegraph Co. plans new telephone exchange and modernize system, $1,300,000.

MARYLAND

DENTON — Choptank Electric Cooperative has REA loan, $1,215,000, for 155 miles line system improvements.

FREDERICK — Securities and Exchange Commission approved financing plans of Potomac Edison Co., involving sale of $5,500,000 in first mortgage bonds, 30,000 shares of cumulative preferred stock and 75,000 shares of common stock.

HUGHESVILLE — Southern Maryland Electric Cooperative has REA loan, $621,000 for 25½ miles transmission line, two switching structures, etc.

OCEAN CITY — Ocean Downs Racing Association, Inc., plans trotting track near Ocean City, $596,900.

MISSISSIPPI

JACKSON — Mississippi Power and Light Co. has registered with Securities & Exchange Commission, Washington, D. C., public offering of $7,500,000 in first mortgage bonds, to finance part of $27,000,000 expansion and construction program.

MERIDIAN — East Mississippi Rural Electrification Association plans new lines and installations; $2,500,000.

MERIDIAN — Southern Bell Telephone & Telegraph Co., plans new building and dail phone installations, $1,640,000.

NATCHEZ — Adams County and City of Natchez have been authorized by the State Agricultural and Industrial Board to hold an election on a proposed $300,000 bond issue; if issue is approved, it will be used to purchase a 1,000-acre site for a proposed $20,000,000 ultra-modern, rayon-pulp plant to be constructed by International Paper Co.

MISSOURI

KANSAS CITY — Panhandle Eastern Pipeline Co. has Missouri Public Service Commission authority to issue $30,000,000 in sinking fund debentures.

MARYVILLE — Nodaway-Worth Electric Cooperative has REA loan, $850,000, for 458 miles line and system improvements.

NORTH CAROLINA

HIGH POINT — Carolina Container Co., C. T. Ingram, vice-pres., has $500,000 expansion program underway; location on Prospect Road.

SHELBY — Southern Bell Telephone and Telegraph Co., plans expansion program costing $732,000.

OKLAHOMA

WALTERS — Cotton Electric Cooperative has REA loan, $1,250,000, for 244 miles line system improvements.

SOUTH CAROLINA

ABBEVILLE — Deering, Milliken & Co., Inc., plans addition to Abbeville Mills Corp; $1,000,000.

DARLINGTON — Pee Dee Electric Cooperative has REA loan, $510,000 for 261 miles line system improvements.

TENNESSEE

JEFFERSON CITY—Appalachian Electric Cooperative has REA loan, $675,000 for 253 miles line and for system improvement.

KNOXVILLE — Knoxville Utilities Board plans $10,226,000 electric system expansion program.

KNOXVILLE — Knoxville Utilities Board seeks approval for $11,726,000 expansion program.

TEXAS

ALVIN — Phillips Petroleum Co. has preliminary work underway on $4,000,000 Chocolate Bayou natural gasoline plant.

AMARILLO—Producers Grain Corp., plans 2,000,000-bushel grain elevator addition, $1,000,000.

COMANCHE — Comanche County Electric Cooperative Association has REA loan, $830,000, for 521 miles line system improvements.

DALLAS — Dallas Power & Light Co., Dallas Power & Light Bldg., plans 60,000 KW electric generating plant; $8,270,000.

DALLAS — Procter & Gamble Co., Ivorydale, Cincinnati, Ohio, plans out-door plant additions, alterations; $250,000.

DALLAS — International Harvester Co., plans wholesale parts depot in Trinity Industrial District; $1,000,000.

DALLAS — Eastman Kodak Co., Rochester, N. Y., plans plant, $1,000,000.

DECATUR—Wise Electric Cooperative, has REA loan, $550,000 for 301 miles line system improvements.

HOUSTON—HomCo., 300 S. Wayside Drive, plans one- and two-story office building with basement, $1,000,000.

HOUSTON — Reichhold Chemicals, Inc., Henry H. Reichhold, Chmn., Board of Directors, Detroit, Mich., plans plant for manufacture of synthetic resins, $500,000 for initial unit.

HOUSTON — Produce Terminal, Inc., plans produce terminal, 3000 Block Washington Ave., at SP tracks, $2,000,000.

HOUSTON — Tennessee Gas Transmission Co. has Federal Power Commission authority to spend $50,000,000 to expand pipe-line system, consisting of 516 miles new main line loops.

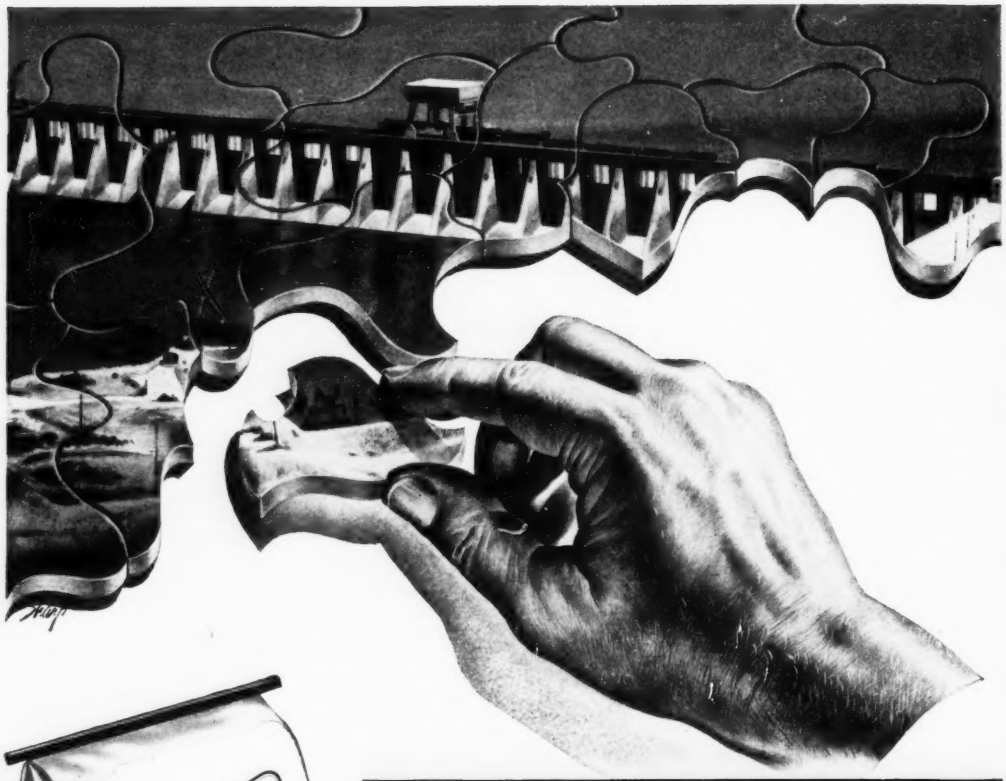
LUBBOCK — Producers Grain Corp., Amarillo, plans for bids for 2,000,000-bushel grain elevator, $1,000,000.

PORT ARTHUR — Gulf Oil Corp. plans $19,000,000 expansion.

SAN ANTONIO — United Gas Corp. plans 19-mile gas pipeline; $2,000,000.

SAN ANTONIO — City Public Service

(Continued on page 42)



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AMERICAN TRUST BUILDING • NASHVILLE 3, TENNESSEE

PORTLAND—HIGH EARLY STRENGTH—AIR ENTRAINING—MASONRY

Three More VIRGINIA BRIDGE Steel Links For Route No. 11

Deck truss bridge over N&W Rwy tracks and New River, Radford, Va.

Continuous Girder and Beam Approach spans over Virginian Rwy and Roanoke River, at Kumas, Virginia.

Beam span overpass crossing Virginian Railway at Salem, Va.

Throughout its long reach from New Orleans northeastward across Louisiana, Mississippi, Alabama, Tennessee and Virginia, to where it leaves the Old Dominion after passing through the famous Shenandoah Valley, Route Eleven is linked again and again by steel structures fabricated and erected by Virginia Bridge. The three new steel bridges illustrated are nearing completion on a 40-mile section of this historic highway in Virginia.

But Route Eleven is no exception—even as these structures are being completed many other bridges, both highway and railroad, are in process of fabrication at our Roanoke, Birmingham and Memphis plants to serve important traffic arteries in eighteen states throughout the South, Southwest and Far West.

More than 50-Years of bridge-building experience is at your service, and regardless of size or design we welcome your inquiry.

Virginia Bridge Company

ROANOKE BIRMINGHAM MEMPHIS NEW YORK ATLANTA DALLAS

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LINK-BELT SPEEDER SERVICE

PROTECTS YOUR INVESTMENT

GEARED TO ASSURE FULL PRODUCTIVITY AT ALL TIMES

Keeping every Link-Belt Speeder Shovel-Crane in tip-top operating condition is one of the main objectives of Link-Belt Speeder and its far flung distributor organization. In every principal city in United States and Canada, and in foreign lands, a stock of parts and men trained in the servicing of Link-Belt Speeder products are in readiness to meet the needs of the user wherever located.

Zack Laws, who has had 25 years' experience as an operator, recently made this brief, to-the-point comment on the K-370: "It's easy to handle. It's dependable. It gives greater quantity output because it's stronger on the crowd and faster on the swing compared with other machines."

•

The Link-Belt Speeder line includes twenty-five models, ranging up to 3 yard in capacity, some wheel-mounted, some on crawlers. In every size and type, Link-Belt Speeder advanced engineering is clearly seen in every detail, making for freer action, lower upkeep, long-life and profitable operation.

•

See our distributor today. Let him show you a size and type to meet your exact needs. Or write for latest catalog.

•

Link-Belt Speeder advanced engineering, honest construction and quickly available service add up to more profitable machine hours and greater returns on your investment. Your distributor will gladly show you the Link-Belt Speeder line of shovels, cranes and draglines, up to 3 yard capacity and explain the features which contribute to their outstanding performance. For instance—

SPEED-O-MATIC CONTROL

"Speed-O-Matic" hydraulic control permanently eliminates all "lost motion" — actuates clutches faster and more smoothly. Operators will tell you the "Speed-O-Matic" control relieves manual effort and there is little or no fatigue after a good day's work. Get the facts today—find out how you, too, can greatly increase your output.

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LINK-BELT SPEEDER

LINK-BELT SPEEDER CORPORATION, CEDAR RAPIDS, IOWA

Builders of the Most Complete Line of SHOVELS-CRANES-DRAGLINES

This picture shows two things that, in six months, caused architects to specify *millions* of square feet of the new Celotex Preseal Roof Insulation on major jobs throughout the country—

1. "PRESEAL" REDUCES DANGER OF MOISTURE

A factory-coating of special asphalt on both surfaces and all edges protects Celotex Preseal against moisture... *before, during* and *after* installation.

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The coating insures a thorough bond to roof deck and to roofing felts of either the asphalt or coal tar pitch type. Application is easier and faster.

These qualities *plus* uniform, high thermal insulation, make Celotex Preseal a roof insulation you can apply without a worry. Its firmness resists fracturing of the roofing felts under traffic during and after application.

All Celotex products are protected against dry rot and termites by the exclusive (patented) Ferox Process.

For complete information regarding Preseal Roof Insulation, see your Celotex salesman... or write the nearest Celotex office—

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BRANCH SALES OFFICES: Atlanta 3, Ga. • Boston 16, Mass. • Cleveland 14, Ohio • Dallas 1, Texas • Denver 2, Colo. • Detroit 26, Mich. Los Angeles 13, Calif. • Minneapolis 2, Minn. • New Orleans 12, La. • New York 17, N. Y. • Philadelphia 2, Pa. • Pittsburgh 22, Pa. • St. Louis 3, Mo.

CELOTEX *Preseal* **ROOF INSULATION**

Construction
COVERING 16 SOUTHERN STATES

Breaking the Camel's Back

The possible effect of the President's income tax proposals on the construction industry should not be underestimated.

As pointed out last month, our industry is just recovering from the many adversities which beset it throughout the war and the period immediately following. If left alone by government, which is an impractical dream, or if not hamstrung by those to whom the immediate political future is more important than the nation's long range welfare, construction can do its proper job.

There is, however, the little matter of the four billion which the President insists is needed. This is supposed to come from increased corporation and middle and upper bracket personal income taxes. If this recommendation becomes law, it will do no industry any good, but it will smack construction right between the eyes.

The arguments against higher corporate taxes apply to all business. They may be passed over with brief reference to the fact that such taxes are very likely to take the dynamite out of what the President referred to as our dynamic economy.

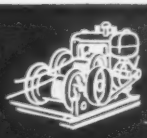
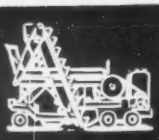
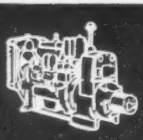
The higher personal taxes may well be the last straw. Few people stop to think of it, but many construction workers are far above the lower income tax classifications. Much of the potential incentive on the part of these men has already been destroyed by featherbedding and other anti-productive practices on the part of organized labor. If this incentive is further whittled down by requiring machine operators and mechanics, and skilled workers in the building trades to pay larger portions of their earnings into the Federal treasury, we'll soon have a hard time getting anything built.

Revenue raising taxes for justifiable government expenses is a necessary evil, but when they threaten the welfare of any industry so fundamentally essential to the nation's economy as is ours, they become downright dangerous. If we must have the extra four billion, a highly debatable point, let's get it without drying up the sources which produce it.

POWER!

CRAWLER TRACTORS
POWER UNITS
DIESEL ENGINES
WHEEL TRACTORS

INTERNATIONAL


INTERNATIONAL ENGINES — **powering tractors or power units—deliver rugged, low-cost power that cuts operating costs to rock bottom.**

Producing aggregate the International UD-18A is one of three International Power Units driving a rock crusher. The low operating cost of these power units is an important factor in profitably meeting the competitive price of crushed stone.

Moving earth to clear the way for a hospital addition is the task of the International TD-18 Diesel Crawler and matched scraper. Averaging 120 yards per hour, the TD-18 did a fast, profitable job of moving a total of 10,000 yards.

You just can't beat International Power for peak production and low operating and maintenance costs. Visit your International Industrial Power Distributor and let him show you how International Tractors and Power Units will produce more profits on your projects.

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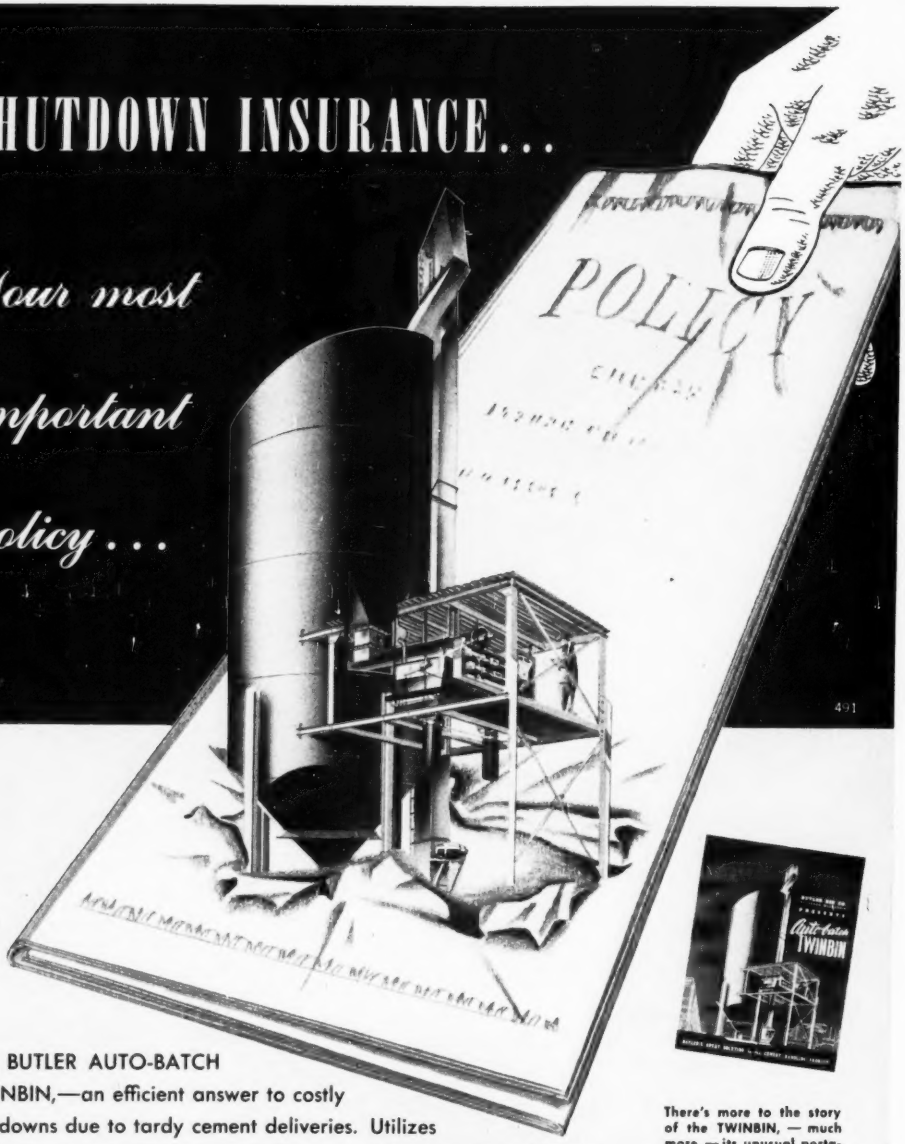
Your most important policy...

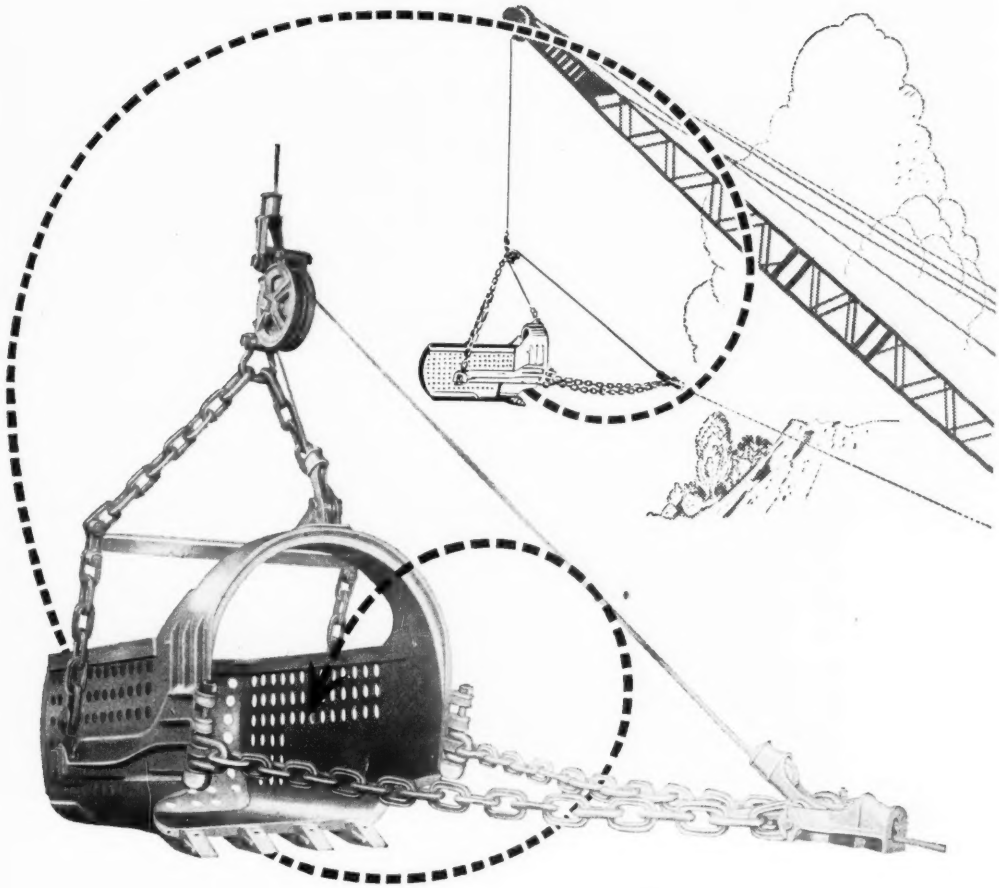


The BUTLER AUTO-BATCH TWINBIN,—an efficient answer to costly shutdowns due to tardy cement deliveries. Utilizes the space for emergency cement reserve which conventional design wastes for batcher and truck access. The principle: A two chamber bin. The upper chamber feeds to dual batcher on a platform pinned to the side. Reserve cement held in lower chamber is brought "upstairs" by elevator when needed. Capacity: 520 barrels. Production: 2 batches every 65 seconds. Result: Continuous operation even when there are delays in spotting that hopper-bottom car.

There's more to the story of the TWINBIN, — much more, — its unusual portability for example. Complete details are yours for the asking. Just write today for the BUTLER TWINBIN Bulletin.

BUTLER BIN CO.

WAUKESHA, WISCONSIN



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3 TYPES
FOR
EVERY DIGGING PURPOSE
3/8 to 40 Cu. Yds.

A full bucket every time . . . and the minimum of maintenance cost, both in dollars spent and in time consumed, will result in more profitable payloads for you. Dragline operators are becoming more and more enthusiastic over the rugged construction, full payloads, and low upkeep of Hendrix Dragline Buckets.

Hendrix Dragline Buckets are engineered by men with "know how" to give you bigger payloads at lower cost. Ask the man who uses one . . . he knows!

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MANSFIELD — LOUISIANA

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with BUCYRUS-ERIE 2-WHEEL SCRAPERS

G-38	G-58
3½ cu. yd. (struck)	5 cu. yd. (struck)
4⅜ cu. yd. (heaped)	6¼ cu. yd. (heaped)
Requires 35 to 55 hp. tractor	Requires 50 to 80 hp. tractor

- ★ Loads at front, dumps in rear.
- ★ Simple hydraulic control — positive down pressure on the blade.
- ★ Double curve cutting edge for fast uniform loading.
- ★ Balanced design, non-slap hitch for fast hauling
- ★ Ample flotation — low rolling resistance, exceptional stability.
- ★ Steep dumping angle for fast clean dump.

HERE is equipment that you can count on to keep busy earning profits! Bucyrus-Erie 2-wheel scrapers needn't ever be idle, because they're versatile — capable of handling a host of jobs. Fast and flexible, they can be used with any make of tractor, crawler or rubber tired. They can keep dirt moving on irrigation and drainage projects . . . can give railroads, highway departments, farms a hand: They can handle overburden stripping for mines, reroute streams and channels, build artificial lakes. In construction work they can handle small fill jobs, releasing larger equipment for other tasks. They can build fills over the edges of banks, backfill culvert wing walls, repair washouts, dig and carry loam, handle grading and finishing.

See your International Industrial Tractor Distributor about the profit-earning possibilities of Bucyrus-Erie 2-wheel scrapers on your jobs.

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For BUCYRUS ERIE TRACTOR EQUIPMENT See Your

INTERNATIONAL INDUSTRIAL TRACTOR DISTRIBUTOR

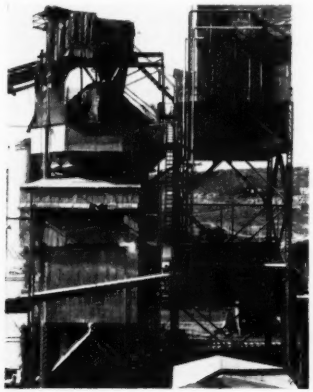
Above—$46,000,000 Fort Gibson dam from the right bank, showing excavation for the right abutment at the lower left, the nearly finished left abutment at upper right center. The two boilers set in a nitch in the upstream dike will furnish steam for concrete curing.

Construction Plant at Fort Gibson Dam

FORT Gibson Dam, $46,000,000 project on the Grand River about five miles north of Fort Gibson, Okla., and 12 miles northeast of Muskogee, is now 64 per cent completed. More than 300,000 of the scheduled 465,000 cubic yards of concrete have been placed in the structure, which will be of the gravity type, 2,870 feet long with a maximum height of 110 feet. Its features and methods of construction, as well as the plant being used, are described in the paragraphs that follow:

Cofferdams

Circular cell type cofferdams were constructed to facilitate foundation excavation. The cells were composed of interlocking steel sheet piling driven around a pre-fabricated template approximately 44 feet in diameter. Piling length was 50 feet in the upstream cofferdam. Downstream lengths of 40 feet were driven. The cells were filled with earth and gravel: the earth being dumped from trucks and placed by clamshell and the gravel being pumped into the cells by a dredge mounted on a steel barge. The cells are located on 48-foot centers with circular arc sheet pile sections connecting adjacent cells. These connectors were also filled with earth and gravel in the same manner as were the cells.



Left—The concrete batching plant at Fort Gibson is about 80 feet high with the aggregate storage bin at the top of the tower.

The over-all cofferdam operation was planned to be constructed in three stages. Stage One cofferdam projected into the river channel from the left bank and enclosed a work area approximately 400 feet wide and 1,100 feet long. Within this area, the entire left abutment, six power intake monoliths, six spillway monolith foundation lifts and two complete spillway monoliths were constructed. Only foundation lifts were poured for the six spillway monoliths, to provide a channel for second stage diversion. Upon completion of work in Stage One, the cells were removed and the steel piling cleaned and straightened for use in Stage Two construction.

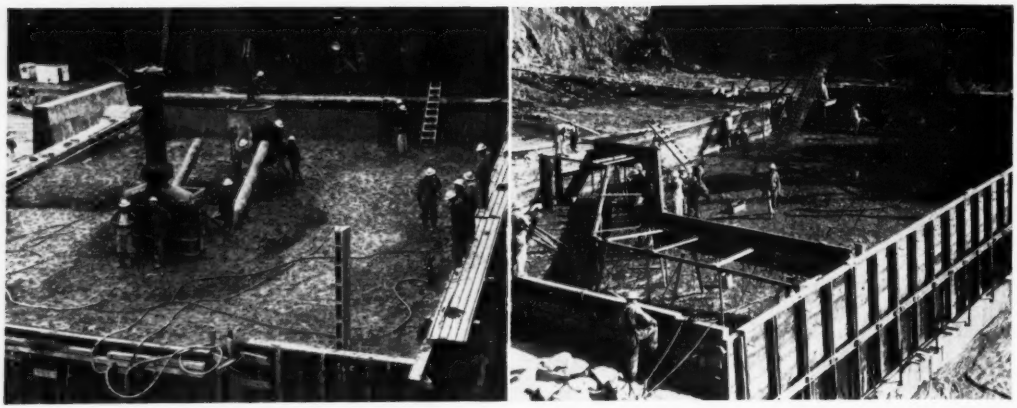
Stage Two cofferdam extends into the river channel from the river's right bank and is attached to one completed spillway monolith constructed in Stage One.

The right flood plain is rather broad and rises gradually to intersect the sheer limestone bluff into which the right abutment of the dam structure will be tied. Therefore, a different type of cofferdam was constructed through the flood plain area. A vertical "cut-off" wall of interlocking sheet piling was driven through the flood plain overburden to the limestone. An impervious dike was raised over the cut-off wall to the top elevation of the cells forming the remainder of the cofferdam.

Stage Two cofferdam encloses an area approximately 2,000 feet in length and varies in width from 250 to 500 feet. At present, attention is centered on the construction of the seven right abutment and twenty-three spillway monoliths within the Stage Two area.

Construction of the Second Stage cofferdam diverted the river channel through the opening which was provided during Stage One operations. The diversion channel is approximately 300 feet wide and has a maximum discharge of approximately 149,000 C.F.S. at a water elevation just short of cofferdam over topping. In order to afford access from the operational area into the Second Stage area, a steel trestle bridge was placed across the river diversion with the roadway extending from the left river bank across the bridge, along the top of the Second Stage downstream cofferdam and down a dirt ramp into the Second Stage construction area.

The tentative plan for Third Stage con-



Above—Left—Concrete buckets are hoisted from trucks to forms by two steam gantry cranes mounted on rails, supplemented by crawler type cranes. The placement crew uses two-man vibrators to consolidate the concrete as it is dumped. A standard five-foot lift is used except on the first four pours. At the right is a close-up of the concrete forms, which are of the cantilever type in various lengths with a height of 11 feet 1½ inches. Absorptive lining is used on forms where the concrete surface will be exposed.

struction is to place a cell type cofferdam upstream and downstream from the foundations of the six spillway monoliths now being used as the river diversion. Upon completion of the cofferdam, the river channel will be completely blocked and the impounded water will begin to form the lake. However, a minimum water level will be maintained by discharging the normal flow of the river through eight 5-foot-8-inch by 7-foot sluice ways located in the spillway monoliths. Third Stage construction will connect the portions of the dam structure previously constructed in the other two stages of work.

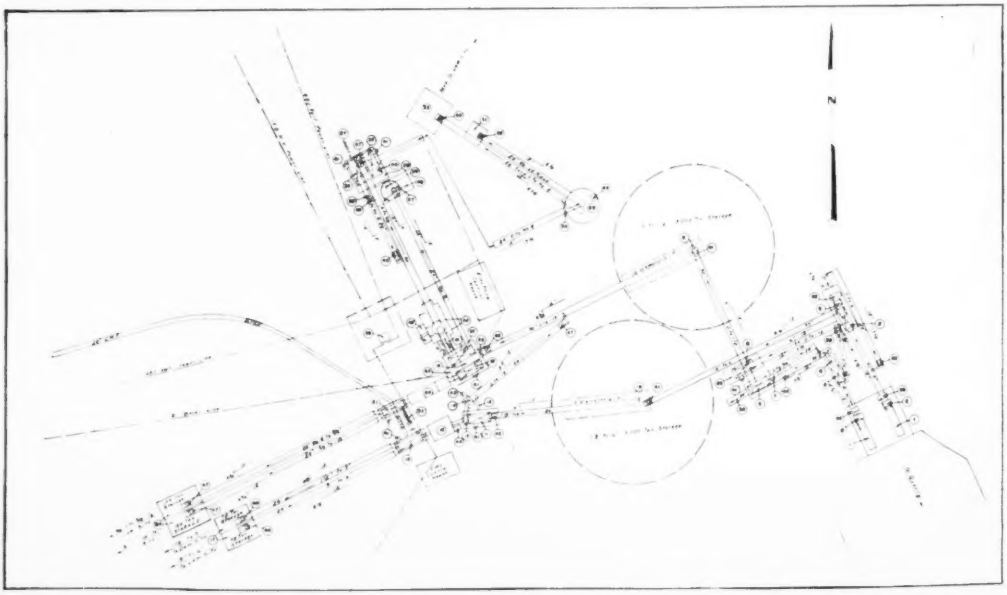
In general, dewatering of the cofferdams is done by three eight-inch, 1,800 gal./min. diesel powered pumps. Supplemental pumping, when required, is done by using 2-inch and 4-inch pneumatic pumps. In order to control water seepage within the working area, a small, low concrete retaining wall was constructed adjacent to the cells to divert all seepage into two centralized sump pits from which water is pumped intermittently.

Excavation and Foundation Preparation

Excavation, for the most part, consists of removing overburden from the limestone foundation. Two cubic yard shovels, clamshells, end dump Euclid trucks and bulldozers are the principal pieces of excavation equipment in use. Under the present contract, there are approximately 620,000 cubic yards of excavation to be done.

When a dip in the limestone foundation

Below—Aggregate plant flow chart. A list of the equipment appears on the opposite page.



Above—Circular cell type cofferdams were constructed. These were composed of interlocking steel sheet piling driven around a prefabricated template about 44 feet in diameter.

occurs in excess of 3 per cent, sloping from upstream to downstream, a keyway is blasted and jackhammered into the upstream one-third to one-half of the foundation. The foundation limestone is generally overlaid by a layer of shale varying from 0 to 5 feet in depth at the axis. The shale increases in thickness as the limestone dips downstream. The faces of the keyways and the structure limits are line-drilled prior to blasting in order to obtain a regular face.

The dip along the limestone strata prevails throughout the limits of the structure. A greater portion of the gravity type monoliths rest on limestone foundation. The stilling basin slab, which lies immediately downstream from the spillway weir section, is placed on either limestone or shale. This slab, which has a minimum thickness of 5 feet, is keyed into the limestone for a minimum of 2 feet in depth along the downstream toe. The training walls and stilling basin walls are placed on limestone, thereby confining the shale that is used for foundation.

It is necessary to treat the surface of all shale areas opened and subject to weathering to prevent rapid deterioration. The treatment consists of spraying the dry, clean, shale surface with an asphalt sealing compound. The seal is sprayed on shale areas to be covered with concrete within two hours after final excavation has taken place.

Grout pipes to be used in foundation grouting are placed on ten-foot centers along the axis of the dam. The pipe extends from an inspection gallery down to the rock foundation. At a later date, a foundation grouting crew drills into the foundation through these grout pipes and supplies grout at various depths and under varying pressures which are determined by the character of the foundation and existing local conditions. In this manner, a grout curtain is placed under the structure to seal all fractures, cavities or otherwise porous material underlying the rock foundation.

Concrete Forms

The basic exterior concrete forms are cantilever type constructed in panels of various lengths and having a height of 11 feet 1¾ inches. Using combinations of various length panels, any practical exterior form can be assembled with very little delay. The panels form lifts of concrete approximately five feet in height. The vertical studs and horizontal walers are 7-inch channels, 9.8 pounds per foot and are faced with 2-inch tongue and groove material nailed to 3-inch by 6-inch nailing strips that are bolted to the backs of the channel studs. The forms are held in place with ¾-inch rods and "ty-screws."

All forms are fabricated in the contractor's carpenter shop, located at the job site, well in advance of the time scheduled for their use. The shop is equipped

(Continued on page 38)

Fort Gibson Aggregate Plant

(Chart on page 26)

1. 36" Apron Feeder
2. 25" x 40" Primary Jaw Crusher Diesel Powered
3. 42" x 60" 4" - 1½" Double Deck Screen Unit
4. 10" x 36" Secondary Jaw Crusher Diesel Powered
5. 6' - 1½" Double Deck Screen Unit 4' x 10'
6. 1½" - 1" Double Deck Screen Unit 4' 10' 60 Ton Bin Under
7. 40" x 24" Roll Crusher Diesel Powered
8. 1" - ¼" Double Deck Screen Unit Scalping 1" or ¼" 60 Ton Bin Under 4' 12'
9. 24" Apron Feeder 3 H.P. Unit
10. 24" Oscillating Feeder 5 H.P. Unit
11. 1¾" x 3⅛" Double Deck Screen Unit 42 x 12' 60 Ton Bin Under
12. Minus 1½" Flow
13. Adjustment for 3" x 6" Reduction to 1½ Minus
14. 12" x 36" Twin Jaw Crusher
15. 7' x 12' Rotary Scrubber (Telsmith)
16. 3⅛" x 1½" Double Deck Screen Unit 4' x 12' With Spray Bars
17. 150 Ton Storage Bin (Pittsburgh-Des Moines Steel)
18. 50 Ton Surge Bin
19. ¼" Screen Unit Scalping ¼" Minus 4' x 12' 16' x 18' Bin Under
20. 5' x 24' Rotary Scrubber
21. ⅜" - No. 4 Double Deck Screen 4' x 12' With Spray Bars
22. 12" Bucket Conveyor 1½" Minus to 21
23. 3' Shorthead Symonds Cone Crusher
24. 300 Ton Storage Bin (Butler Bin)
25. No. 4 - No. 8 Double Deck Screen Unit 4' x 12' 150 Ton Bin Under
26. ⅜" - No. 8 Double Deck Screen Unit 4' x 12' 150 Ton Bin Under
27. 30" Hammermill Crusher 150 H.P. SR Motor Reduction Of No. 4 - ⅜" to No. 8
28. 150 Ton Storage Bin (Pittsburgh-Des Moines Steel)
29. 10' Diameter Sturtevant Sand Air Separator 75 H.P. Motor
30. Adjustment To By-Pass Air Separator Swing Gate
31. 30 Ton Storage Bin 100 Minus To Waste
32. 150 Ton Storage Bin, Sand (Pittsburgh-Des Moines Steel)
33. Adjustment Of Flow Between No. 4 to 1½" Rock And Sand Swing Gate
34. Adjustment Of Flow To Either Mill Swing Gate
35. 0 To 1" Scalping To Waste As Required
36. Scalping Screen 0 to ¼ Waste
37. 10' Sturtevant Air Separator
38. 1000 KVA Transformer
39. 5 H.P. Motor
40. 7.5 H.P. Motor
41. 15 H.P. Motor
42. 25 H.P. Motor
43. 50 H.P. Motor
44. 75 H.P. Motor
45. 200 H.P. Motor
46. Diesel Motor
47. 10 H.P. Motor
48. 2 10' x 10' Storage Bins
49. 24" Apron Feeder
50. 30 H.P. Motor
51. ¼" Screen Unit Scalping ⅛" Minus

(Equipment is "Cedarapids," except units 15, 17, 23, 24, 28, 29, 32 and 37)

Fort Gibson Dam

MIX-TABLES ONE CUBIC YARD

	Class B			Class A			Class C, Ext.					Class C Int.	
Mix No.	**B27.5W-1**	**B Spec.-1**	**B27.5W2**	**A34.5W**	**¾ A 46.W**	**CE27W-1**	**CE27W-2**	**CE Spec. 1**	**CE Spec. 2**	**CE Spec. 3**	**C125W-1**	**C125W2**
W/C	.59	.59	.59	.53	.52	.58	.59	.59	.72	.59	.68	.68
Bags/Yd.	4.5	4.5	4.5	5.5	6.0	4.5	4.5	4.5	4.5	4.5	3.5	3.5
Gal./bag	6.68	6.68	6.68	6.0	5.85	6.67	6.67	6.67	8.90	6.67	7.68	7.68
Cement	423	423	423	517	564	423	423	423	423	423	329	329
Water	250	250	250	275	292	250	250	250	300	250	224	224
Sand	958	1100	958	1151	1189	941	940	961	1290	958	908	933
¾ Agg.	625	905	550	765	2089	500	450	624	2195	1000	500	450
1½" Agg.	802	1480	877	1421	....	542	592	800	....	1526	650	675
3" Agg.	1100	....	1100	....	....	699	699	1098	....	....	725	775
6" Agg.	....	....	....	....	....	801	801	....	....	....	850	800
Admix.	450cc	450cc	450cc	550	600	450	450	450	450	450	350	350
Total Wt.	4158	4158	4158	4129	4114	4157	4157	4157	4208	4157	4186	4186
Item	29	29	29	28	28	31	31	31	31	31	30	30
CA Factor	.91	.91	.91	.78	.74	.92	.92	.92	.92	.92	.97	.97
Total Gal.	30	30	30	33	35	30	30	30	40	30	27	27
% Sand	27.5	31.6	27.5	34.5	46	27	27	27	37	29	25	25.7

Above—Newly elected officers of the Carolinas Branch after the election. Top row, left to right are R. H. Pinnix, the retiring president, William F. Bowe, C. P. Street, H. S. Crain, directors. Bottom, left to right: E. D. Sloan, director; W. K. Dickerson, Jr., vice president, and Robert Patton, executive secretary.

Carolinas A. G. C. Branch Holds Most Successful Convention

Greenbrier Assembly Attended by Many Members and Ladies---Hear National and State Leaders Talk on Construction Industry Problems

GATHERED at White Sulphur Springs, W. Va., for their twenty-eighth and most successful convention, members of the Carolinas Branch of the Associated General Contractors of America last month elected new officers, discussed their problems, listened to addresses by both local and national leaders on the current outlook and what to expect if present unsettled international conditions should result in war.

W. T. Potter, president of the Greenville, S. C. firm of Potter & Shackleford, Inc., was elevated to the Carolinas Branch presidency, with W. K. Dickerson, Jr., head of Dickerson, Inc., of Monroe, N. C., elected vice president. C. P. Street, secretary and general manager of McDevitt & Street Co., Charlotte, N. C. retained the office of treasurer of the Carolinas group and Robert Patton, the organization's executive secretary, was re-appointed.

Six new directors were selected. They were: E. D. Sloan, president of Sloan Construction Co., of Greenville, S. C.; Lawrence C. Merchant, vice president of Merchant Construction Co., of Asheville, N. C.; C. N. Whilden, vice president of Blythe Brothers Co., of Charlotte, N. C.; H. S. Crain, president and treasurer of Crain & Denbo, Inc., of Durham, N. C.; William F. Bowe, of William F. Bowe & Co., Augusta, Ga., and E. G. Skinner, president of Skinner & Ruddock, Inc., of Charleston, S. C.

Below—The Greenbrier, at White Sulphur Springs, W. Va., where the Carolinas Branch of the Associated General Contractors gathered last month.

Pinnix Makes Report

The report on 1948 activities of the Carolinas Branch was delivered by R. H. Pinnix, of Gastonia, N. C., the retiring president, who stated he felt "our accomplishments have been exceedingly worthwhile" and that a valuable service has been rendered the construction-buying and using public in continuing to uphold the standards of the construction industry at the same time praising the cooperation received from architects, engineers and highway departments.

Mr. Pinnix emphasized the importance of apprentice training and the campaign to train personnel for key construction industry positions, expressed gratification at the progress made under the Army affiliation program and pointed to the large increase in membership as an indication of the increasing prestige of the Carolinas Branch. He urged closer cooperation among the members and said full advantage of 1949 opportunities can be taken only by closely watching trends and developments in business and government.

Officials of the country-wide Associated General Contractors organization delivered the keynote addresses at the opening session. Dwight W. Winkelman, president, of Syracuse, N. Y., revealed recently devised plans for mobilizing the construction industry in event of war and H. E. Foreman, managing director, reported generally on national conditions and at the same time urged his audience to give thoughtful attention to world and domestic political and economic affairs.

War Role Discussed

Prefacing his address with the prediction that the value of 1949 construction will equal or pass the 1948 level, Mr. Winkelman described proposals recommended to the National Security Resources Board for using the experience and knowledge of the construction industry if war should come. The theme of his talk was that the construction industry in the conflict of the future must act more speedily and more efficiently by previously made plans unhampered by inappropriate regulation.

The three prime functions of the construction industry in wartime, as outlined by Mr. Winkelman, should be to form a nuclei for military construction forces, to repair the damage made by enemy attack on manufacturing, transportation and utility facilities and to do the construction necessary for military and industrial operations and essential civilian requirements. New construction in a future war is expected to top the $49,000,000,000 worth of work done in World War II, with the additional demand that it

Left—W. T. Potter, the new president. Right—(Top to bottom)—Dwight W. Winkelman, national A. G. C. president; H. S. Foreman, national managing director; R. H. Pinnix, retiring president, and William Muirhead, past president of both the national organization and the Carolinas branch.

be done in much less time.

The construction industry, the national A. G. C. head reminded his listeners, differs from fixed manufacturing because the management, men, materials and equipment are moved to the site of the job to perform the necessary operations. Failure of the Federal government to recognize this difference resulted in "unusual and hampering complexities" during the last war. One of the difficulties was in obtaining materials, as construction was not considered an end product.

He accented the war-time need for continuing production of essential construction equipment and materials, including on his list tractors, bulldozers, cranes, power shovels, power scrapers, heavy earth-moving wagons, motor graders and compressors, and such materials as reinforcing bars, structural steel shapes, pipe and fittings, lumber, nails and building hardware and copper wire and copper products.

Politics Scrutiny Advised

Managing Director Foreman advised the assemblage in the auditorium of the Greenbrier Hotel to consider political affairs both at home and abroad as vitally important to the construction industry, citing as an example the influence of overseas policies on the amount of steel the domestic construction industry will have for its own business. The Marshall Plan and the defense program, he observed, will probably accelerate as the years go on.

Mr. Foreman forecast curtailment of some construction, if the defense program is enlarged, with resulting increased demands against the country's 64,000,000 tons of usable steel. The country, in his opinion, is faced with "more government" in the next four years, with federal aid very likely extended into the educational building field, in addition to the airport, hospital and highway programs. This may mean a battle to hold to the contract system.

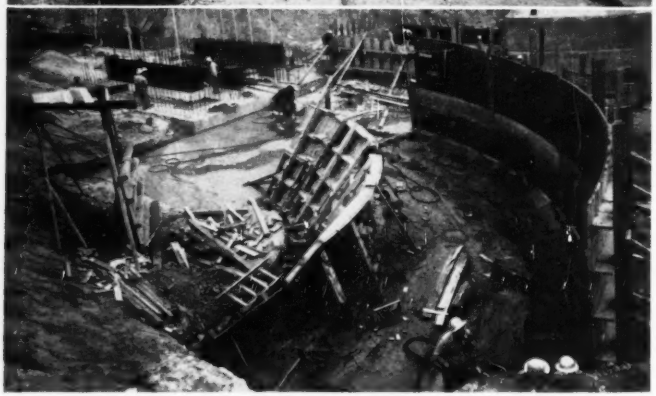
Divisions Hold Meetings

Labor relations promise to be no less complicated. The contractor must move to see that his interests are properly represented with regard to labor. The overtime on overtime decision is a problem to be faced. The basing point decision he regards as creating a monopoly for the plant nearest the point of consumption, thus upsetting the purchasing scheme of the construction industry.

Three division meetings were held simultaneously following the general session. The building division met under chairmanship of F. L. Shackelford, of Potter & Shackelford, Inc., Greenville, with an address by Col. J. Norman Pease, of J. N. Pease & Co., Charlotte engineering firm, and remarks by W. A. Snow, manager of the building division of the national association. W. F. Bowe led the highway and public works division and

(Continued on page 61)

Left—C. R. McMillan, Chief Highway Engineer of South Carolina, and Col. J. Norman Pease, Charlotte engineer, who addressed division meetings at the convention.



Left—Top—Rock excavation for concrete stilling basin below the outlet works on the Benbrook dam and reservoir project. Lower—Foundation for the outlet works structure, showing forms for the wing walls of the intake approach channel in the foreground. In the background at the left are the foundations for the 13-foot diameter flood control conduit. The two 30-inch steel pipes shown at the extreme left are for discharge of conservation waters.

Galveston Engineer District Lets $4,300,000 Contract for Benbrook Dam Job

Above — Left — Col. B. L. Robinson, Galveston district engineer, under whose supervision the Benbrook project is being constructed. Charles J. Kocian, right, is resident engineer for the Corps of Engineers. A graduate of West Point, Colonel Robinson has served with the Army engineers in many parts of the world, including Panama and the South and Mid-Pacific areas. In World War II he engaged in seven campaigns and two D-Day landings with the rank of brigadier general. Mr. Kocian is a native of St. Paul, Minn. He entered government service in 1930 after graduating from the University of Minnesota. Since he has worked on many outstanding engineering projects.

TO complete construction of the earth embankment and spillway of the Benbrook Reservoir project, the Galveston District of the Corps of Engineers, last month awarded a $4,300,000 contract to the List and Clark Construction Co. of Kansas City, Mo., it was announced by Col. B. L. Robinson, U. S. engineer of the Galveston District.

The project, which is located on the Clear Fork of the Trinity River about 10 miles southwest of Fort Worth, Texas, is one of four reservoir projects which the Corps of Engineers is presently constructing in the Trinity River Basin for flood control and water conservation. Others are the Lavon, Grapevine, and Garza-Little Elm projects.

When completed the Benbrook project will consist of an earthen dam about 9,200 feet long with a maximum height of 130 feet above the stream bed. The reservoir will cover an area of 7,600 acres at the top of the flood control pool and will control 416 square miles of run off.

Under the direction of the Corps of Engineers, Ottinger Brothers Construction Company is now constructing the concrete outlet works. These will consist of a 100-foot control tower, two gated intake openings, each 6.5 feet wide and 13 feet high and a 13-foot diameter circular discharge conduit. In addition to the flood control outlets, two 30-inch steel pipes will be provided for the release of conservation water.

Construction of the project began in May 1947 when the J. W. Mosley Construction Company began work on the earth embankment. This contract was completed in January 1948.

Other contracts, yet to be completed are those with Phillips and Davis for delivery of service and emergency gates and Consolidated Western Steel Corporation for a 50-ton crane.

Construction of the project which is presently one month ahead of schedule will be completed during the fiscal year of 1952, according to Charles J. Kocian, resident engineer for the Corps of Engineers, who is supervising the construction of the project at the dam site.

Common excavation for the intake tower, conduit and stilling basin was accomplished by the use of two LeTourneau 8 cubic yard scrapers pulled by Caterpillar D-7 tractors. As the excavation approached grade, a one-cubic yard Northwest shovel was employed to remove weathered rock material and to excavate to neat lines the approach to the intake and the stilling basin discharge channel.

The outlet works structure is founded upon a soft dark blue to gray Goodland

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Below — Construction of the 13-foot diameter conduit through which flood waters will be discharged.

Contractors' Overtime Pay Problem Discussed

CONSTRUCTION of homes, apartments, schools and churches, retail and department stores is not covered by the provisions of the wage and hour law, it was emphasized in a recent address by Harry Weiss, director of the wage determinations and exemptions branch of the Department of Labor, although "instrumentalities of interstate commerce" and facilities used in the production of goods for interstate commerce do come within the scope of the act.

"Instrumentalities of interstate commerce," as defined by Mr. Weiss include highways over which interstate commerce regularly travels, interstate railroad or pipeline facilities, river and harbor facilities, ships, airports and other transportation terminals. "Facilities used in the production of goods for interstate commerce" are the nation's industrial establishments, such as mining, manufacturing or processing plants.

Five Categories Covered

Employees engaged in five general types of construction activities connected with these "instrumentalities" and "facilities" are covered by the minimum wage and overtime provisions of the Wage and Hour Law, but those engaged in the original construction of buildings are not generally covered, even if the buildings when completed will be used as instrumentalities of commerce or to produce goods for commerce.

Workers engaged in construction of new buildings are considered covered when their work constitutes an enlargement or extension of existing production facilities of commerce instrumentalities. This applies where the new building becomes an integral part of an existing plant producing goods for interstate commerce or where it extends, enlarges or improves an existing means of interstate commerce.

Coverage is predicated on the work of the individual employe but would not be limited only to those employees who work on the site. Included may be office workers, stenographers, bookkeepers, clerical help, payroll workers, time keepers, watchmen and guards, employees who maintain, repair or rebuild machinery and equipment used on the job and employees transporting such equipment to and from the job site.

Supreme Court Decision's Effect

How the Supreme Court decision in the longshoremen's case affects the construction industry was also discussed by Mr. Weiss, who said "the decision dealt with the application of the overtime provisions of the Act to employes in the longshore industry who received premium payments for working certain specified hours and days during the week. The longshore industry has been characterized by the casual nature of its employment. Because of this, a type of contract developed in that industry which had the purpose, and largely the effect of establishing a concentration of work within specified clock hours and days, in spite of the number of different employers a man might have during the course of a work week and nothwithstanding impossibility of a regular weekly pattern of hours.

Overtime Hours Specified

"The longshore contracts made no reference to premium payments for hours in excess of a daily or weekly standard, but merely specified the hours which were to be paid at straight-time rates and the hours during which so-called 'overtime' rates were to be paid. Typically, the hours designated as straight-time were the hours between 8 a.m. and 5 p.m. on Monday through Friday, and from 8 a.m. to noon on Saturdays. Work outside these hours or on holidays was to be paid for at premium rates, usually at time and one-half.

"The Supreme Court held that these premium payments, although called 'overtime premiums' in the contract, were not 'true overtime' at all, within the meaning of the Wage-Hour Law. Such higher rates, the Court ruled, must be included in the 'regular rate' of pay for the purpose of computing overtime compensation due under the Act for hours worked over 40 in a week.

"The Supreme Court went on to define what constitutes 'true overtime' under the Act. The Court held that a true overtime premium is an extra payment, in addition to the regular rate, for working in excess of a bona fide daily or weekly standard number of hours. This time overtime pay need not be included in computing the 'regular rate of pay' and may be offset against any overtime pay required by the Wage and Hour Law. There is no problem under it for employers whose employes do not work more than 40 hours a week; nor is there any problem if the employer pays time and one-half for hours worked beyond 40 and makes no other types of extra or premium payments in excess of the employe's straight-time rate."

Construction Premium Pay

Stating that he understands the construction industry makes it a common practice to pay employes certain daily premiums for work outside the normal working hours and for work on Saturdays, Sundays and holidays, Mr. Weiss said the Court indicated in its decision the circumstances in which premiums paid for work at such times are to be regarded merely as higher straight-time earnings for work performed during undesirable hours or for undesirable work and when they can constitute true overtime.

He said the fundamental principle is that only those premium payments for work on Saturdays or Sundays, or at night, or at other specified times that are contingent upon the employe's having previously worked a specified number of hours or days, in accordance with a bona fide standard, may be considered true overtime payments within the meaning of the Wage and Hour Law. However, there is no single and exclusive test for what constitutes a standard. It may have been established through collective bargaining or as a result of the employer's established practice.

If the pattern of employment in an establishment, or for a particular group of employes, establishes the fact that the work on Saturdays or Sundays normally falls within the overtime hours set by a contract or practice; that is, if Saturday or Sunday work normally is performed after the employes have previously worked a standard number of hours or days in the same work week — the premium payments for these days may be regarded as true overtime pay for excessive hours of work. "If these are the facts," Mr. Weiss said, "the premiums for Saturday and Sunday need not be included in the 'regular rate' and may be offset against any overtime due under the Wage and Hour Law for hours in excess of 40 a week."

Normal Work Week

The situation, he explained, typically occurs when the work week begins on Monday and the employes normally work a standard work week of, say, 40 hours, before working on Saturdays and Sundays. In such instances, Saturday and Sunday hours would normally fall within the weekly overtime hours set by the contract or practice in effect at the plant. However, if for example, the work week begins on Thursday and ends on Wednesday, it would be impossible to show that Saturday and Sunday work normally falls after the employes have previously worked on a bona fide standard number of hours or days in that week.

"Under such circumstances, premium pay for work on Saturday and Sunday would have to be included in the 'regular rate.' Furthermore, if the pattern of employment is determined by variable factors which are such that the employment is in fact sporadic and there is actually no standard work week normally worked by employes, it cannot be said that the Saturday or Sunday work normally falls after the employes have previously worked a bona fide standard number of hours in the week."

Daily Overtime Provisos

Turning to daily overtime provisions, Mr. Weiss stated that premium payments for work in excess of a daily standard of hours are true overtime premiums under the Act. If employes normally work eight hours a day, premium rates for hours in excess of that standard are true overtime under the law. Sometimes, however, premium payments are provided for work before and after specified shift hours. If such premiums for out-of-shift work, commonly known as "clock overtime," are not contingent on the employe's having previously worked a standard number of hours in the day, the

(Continued on page 69)

Above—Perspective showing Blakely Mountain dam as it will appear when finished on the Ouachita River, about three miles west of Mountain Pine, Ark.

Two Tunnels Being Bored at Blakely Mountain Dam

TWO tunnels—one ultimately scheduled for power generation and the other for flood control—are now being driven for the initial purpose of diverting the waters of the Ouachita River 13 miles northwest of Hot Springs, in Garland County, Arkansas, preliminary to construction of the Blakely Mountain dam at the head of Hamilton Lake.

The project when completed will consist of an earth dam approximately 1,500 feet in length and 230 feet in height, a flood control power intake structure, a flood control tunnel and stilling basin, a power tunnel, surge tanks, penstocks, powerhouse and appurtenant structures. The maximum power pool will cover 40,000 acres with a storage capacity of 1,286,200 acre feet. The maximum flood control pool will cover 48,000 acres with a storage capacity of 617,000 acre feet.

Diversion of the river, prior to construction of the dam embankment is to be accomplished through the two diversion tunnels now under construction. Downstream portions of these tunnels will subsequently be used for power and flood control purposes. The power tunnel is 30 feet in diameter and approximately 1,500 feet in length. Diameter of the flood control tunnel is 19 feet and its length about 1,700 feet. Tunneled connections from approximately the midpoint of these tunnels will rise 80 feet to the power and flood control intake structure. Diversion ends of the tunnels will be plugged when no longer needed.

Left—Jumbo used in the power tunnel.

Contract Totals $4,446,155

Contract for the construction of the tunnels was awarded to United Concrete Pipe Corp., Chas. L. Harney, Inc., Stolte, Inc., and Ralph A. Bell, all California firms, on June 21, 1948. Amount of the contract is $4,446,155 and the contract period is 400 days.

Work was started July 12 with open cuts in the stilling basin at the downstream end of the tunnels. First tunnel excavation at the downstream portal of the power tunnel was started August 4 with two exploratory drifts along the spring line. These drifts were carried into the abutment for 60 feet and connected across the tunnel crown by a riser. Douglas fir arch timbers—12- by 14-inch—were set through the drifts and riser beginning at the maximum penetration and backed out to the portal as the drifts were connected by the riser. Work was completed on September 4 without difficulty despite overburden of 15 feet of rotten brown shale at the portal.

Entrance into the flood control tunnel was accomplished in a similar manner. However, five feet of the portal was lost due to caving ground.

Bench and Header Method Used

The main tunnel excavation was then started by a bench and header method. This method was used for approximately 75 feet in the flood control tunnel and 150 feet in power tunnel. At these penetrations better rock was encountered and full face excavation was started. The larger jumbo used in the 30-foot power tunnel mounts 8 drifter drills and the smaller one in the 19-foot flood control tunnel mounts six.

The headings in both tunnels are being

Right—Top—Arched finger raiser with first timber arch set in place in the power tunnel. Middle view shows exploratory drift along spring line of 30-foot tunnel. Bottom—Drift and bench along right side of power tunnel.

drilled to a depth of 12 feet using four-foot drill steel changes. An advance of 10 feet is being made each round. Progress at the present is approximately 10 feet per day in the power tunnel and approximately 15 feet per day in the flood control tunnel. The excavation is in sandstone and shale interbedded with hard dark grey stable shale predominating. Center line of the tunnels is normal to the strike. The bed dips approximately 30 degrees from the horizontal. Driving is into the dip.

A ¾-cubic yard shovel is being used for mucking in the large tunnel and an overhead tractor loader is being used in the smaller tunnel. The muck is hauled from the tunnel with 6 cu. yd. Koehring Dumptors.

Estimated date for holing through on the flood control tunnel is March 15, 1949.

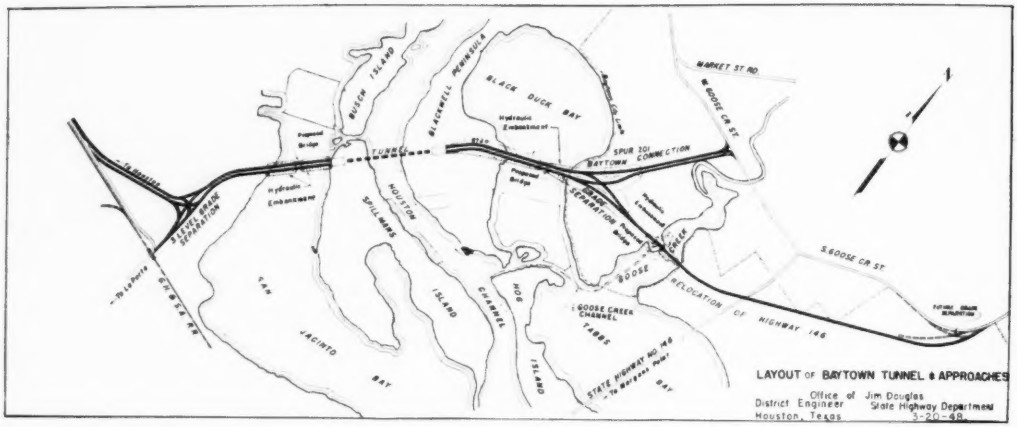
Tunnel supports consists of steel ribs horseshoe shape, spaced 2 or 3 feet on centers, depending on the character of the material, with steel liner plates installed on top of the ribs to approximately 45° each side of the crown. Liner plates and ribs are blocked with wood.

Both tunnels will be lined with concrete with concreting operations scheduled to begin early in February 1949.

The work is under the supervision of Col. R. G. Lovett, district engineer, Corps of Engineers, with headquarters at Vicksburg, Miss. Col. J. H. Trescot is resident engineer on the job with William L. Maschmeyer as assistant. Clifford G. Kidwell is general superintendent for the contractor.

Blakely Mountain Project
Statistical Data

DRAINAGE AREA	1,105 sq. mi.
MINIMUM POWER POOL	
Elevation	535.0 ft. m.s.l.
Area	20,900 acres
Storage	864,900 acre-feet
Equivalent runoff	14.7 inches
MAXIMUM POWER POOL	
Elevation	578.0 ft. m.s.l.
Area	40,100 acres
Storage	1,286,200 acre-feet
Equivalent runoff	21.8 inches
FLOOD CONTROL POOL	
Elevation	592.0 ft. m.s.l.
Area	48,300 acres
Storage	617,000 acre-feet
Equivalent runoff	10.5 inches
Design Flood—April 1927	
Estimated peak inflow	122,000 c.f.s.
Estimated peak outflow	3,000 c.f.s.
Estimated volume	686,000 acre-feet
Average rainfall	15.6 inches
Average runoff	11.7 inches
SURCHARGE POOL	
Elevation	610.2 feet, m.s.l.
Area	60,500 acres
Storage	993,000 acre-feet
Equivalent runoff	16.8 inches
Design Flood, Hydrograph A	
Estimated peak inflow	418,000 c.f.s.
Estimated peak outflow	45,000 c.f.s.
Estimated volume	1,163,000 acre-feet
Average rainfall	21.5 inches
Average runoff	19.7 inches
FREEBOARD	
Elevation, top of dam	616.0 feet, m.s.l.
Area	64,100 acres
Storage	361,000 acre-feet
Equivalent runoff	6.1 inches
Height	5.8 feet
FLOOD CONTROL CONDUIT	
Diameter	19.0 feet
Invert elevation	399.0 ft. m.s.l.
SPILLWAY	
Width	200 feet
Invert elevation	592.0 feet m.s.l.



Baytown Tunnel is Part of $9,000,000 Gulf Road Change

TEXAS' second tunnel will soon be placed under construction as part of a $9,000,000, seven and one-half mile project for relocating State Highway 146 between LaPorte and Baytown in the highly industrialized area thirty miles south of Houston. The project involves a three level bridge, roadway approaches in cut and hydraulic embankment, three trestles and the tunnel.

Two ferries operated across the Houston ship channel as part of the state highway system will be eliminated by the proposed subaqueous tube, which is to be the second under that man-made route connecting Texas' great industrial center with the sea. A third tunnel will be part of a similar project spanning nearby Galveston Bay.

With exception of the trestles and tunnel, the facility is being developed as a divided lane highway with design speeds of 50 M.P.H. on the land portions and 35 M.P.H. through the tunnel. Traffic studies revealed that the southern terminus of the project is at a point where there is considerable distribution of traffic. Certain economies would be achieved through the use of a three-level bridge at this point to effectively handle these turning movements.

Approximately three and one-quarter miles of the project will be constructed on hydraulic embankment placed directly during tunnel dredging operations. These embankment sections are to be located in both the San Jacinto and Black Duck bays which are not navigable. Two trestles, each approximately 400 feet in length, are planned in these embankments. These spans will be provided for possible future navigation developments and also to satisfy hydraulic requirements as these bays are tidal. A third trestle approximately 550 feet long will be constructed over Goose Creek, a navigable body of water. Standard design features of the project are in accordance with those of the Texas highway department and the Public Roads Administration insofar as they may be applied. Pavement, trestle, and tunnel vehicular loadings are based on those recommended by the American Association of State Highway Officials.

Data obtained from the hydrographic and soil surveys of the channel area reveal that the precast subaqueous tube type of tunnel would be most adaptable. Development of a general plan and profile indicated that a tunnel slightly in excess of 3,000 feet between portals with ramp sections beyond these points 500 feet in length would be required.

Two cross-sectional designs have been prepared for the precast subaqueous sections. The first is circular in exterior cross section, and the second of the conventional octagonal shape. It is believed that considerable economy can be effected through construction methods employed during fabrication of the circular section. This section, however, has not been as commonly used, and in view of this, the octagonal section is being offered as an alternate design.

The tunnel portion of the project consists of nine precast sections, each varying in length between 250 and 300 feet. The portal segments are approximately 230 feet long and are constructed by cut and cover methods following the placing of the subaqueous portion. The ramp sections will be constructed simultaneously with the portal segments.

The nine subaqueous segments will be constructed by the trench and precast methods. In this method, a trench will be dredged to a maximum depth of 86 feet below Mean Low Water and the precast tunnel segments of steel and concrete lowered into it.

Ventilation of the tunnel is to be accomplished by employing a single fresh air duct under the roadway, activated by equipment located in the ventilating building located at the north portal. Control

Second Ship Canal Tube to be Over 3,000 Feet Long, of Precast Design

of the system, including the continuous sampling and recording devices, will be automatic. Tunnel lighting will be provided through the use of a single fixture containing a double line of fluorescent tubes.

Construction of the land portions of the project will be concurrent with that of the tunnel. A total construction period of 18 months has been scheduled. Construction of the channel crossing has been divided into four contracts:

Contract 1 covers fabrication of the precast segments, the preparation of the trench across the channel, the placing of the hydraulic embankment, and the placing of the precast sections.

Contract 2 involves the construction of the cut and cover sections at the portals, the open approaches and the ventilating building.

Contract 3 involves the installation of the mechanical and electrical equipment.

Contract 4 will cover tiling and finishing the facility. Total estimated cost of the project, based on current construction costs, is approximately $9,000,000, exclusive of right-of-way.

Construction plans for Contract 1 have been completed and are being reviewed by State and Federal officials and pending approvals the contract is expected to be let about the first of the year. Plans for Contract 2 are well advanced.

Plans for the land and bay crossings are being prepared by the Texas Highway Department. Jim Douglas is district engineer at Houston. The firm of Parsons, Brinckerhoff, Hall & MacDonald are designing and will supervise the construction of the tunnel for the department.

$18,250,000,000 Construction Value Seen for 1949

Rises Expected in Public Work, Private Projects May Decline

by
J. W. Follin
Assistant Administrator, Federal Works Agency

THE most significant changes anticipated for construction in 1949 are divergent trends in public and private construction. It is expected that the value of public construction will increase by close to 25 per cent whereas private construction may decline moderately. Consequently, the total dollar value is expected to increase only slightly over the 1948 rate.

Of an assumed total volume of $18,250,000,000, public construction could account for as much as $5,000,000,000. The public portion represents 27 per cent of the total, whereas it was only 23 per cent in 1948. However, this is still considerably short of the close to one-third to total ratio averaged in the two decades prior to the war. It appears that state and local public construction volume at $3,300,000,000 will considerably outweigh Federal construction estimated at $1,700,000,000. The following table presents the forecast for 1949 by types of public construction, in comparison with the dollar volume for 1948.

New Public Construction—Forecast 1949

(millions of dollars)

	Forecast 1949	Estimate 1948
TOTAL PUBLIC	$5,000	$4,050
FEDERALLY FINANCED	$1,700	$1,350
STATE-LOCALLY FINANCED	$3,300	$2,700
Residential	100	60
Nonresidential	1,325	970
Educational	700	530
Hospital & Institutional	325	195
Other	300	245
Military	200	150
Highways	1,750	1,540
Conservation & Development	800	610
Sewer & Water	525	460
All Other	300	260

The increase in public construction may be traced in part to previous postponements. During the war years, it was to channel men and materials to essential war construction. Since the end of the war, public construction has generally been postponed to favor the greatest possible volume of housing and other needed types of private construction. The latter have made additional demands for public works facilities. As a result, vast needs for public projects have accumulated. It becomes increasingly difficult to postpone further the most essential of these pressing requirements.

This is particularly true of school construction, a category in which a sharp increase in volume is foreseen for 1949. The same situation also holds for public hospital construction. A sizable increase also is expected for conservation and development work, including reclamation projects, river and harbor work, and flood control. Increases are also anticipated for sewer and water and other types of public construction. Highway construction of all kinds—Federally-aided, independent state, city and county work—is estimated at $1,750,000,000, an increase of nearly 15 per cent over 1948 volume. Highway work as a whole represents about 35 per cent of the total volume of public construction, a somewhat smaller percentage than was evident in 1948.

These conclusions are drawn by the Federal Works Agency on the basis of a continuous, day-to-day analysis of current contract awards in all public jurisdictions.

Physical Volume About the Same

In terms of current dollars, the assumed value of new construction for 1949 appears to set a new record, surpassing even the war years. But in terms of physical volume, 1949 will be about the same as 1948. However, it represents a smaller volume of construction than was accomplished in 1941 or 1942, or in any of the years from 1924 through 1929. New construction averaged close to 11 per cent of national income during the period from 1920-1939. This relationship was closer to 8 per cent in 1949 and will probably not rise above that in 1949.

The dollar volume estimated for public construction in 1949 appears to be a new peacetime high. However, the physical volume, while an increase over 1948, is well below the war years and slightly less than in 1939. This fact points out the continued deferment of a sizable volume of public projects and the actual construction of only the most needed facilities in spite of the accumulated deficits.

Increased Volume of Public Construction Appears Feasible

Is it possible to step up public construction by nearly 25 per cent in 1949? To answer this question, it is necessary to relate the 1949 estimate to the total demands that will be made upon the construction industry.

In the past few years, lack of materials has been a limiting factor. However, output of almost all building materials has increased at a rapid pace during 1949. We may expect output to increase again during 1949 and to provide larger stocks in the hands of manufacturers and on the shelves of local dealers. Shortages of cement, lumber, and metal projects should be less widespread and less serious in 1949. Hence, there should be an ample supply of materials for public construction.

Our economy is proceeding in high gear and employment is at record levels: the continuation of prosperity is, of course, assumed in this estimate. The current high level of construction employment, the greater number of active, qualified apprentices, plus an increase in labor productivity—all lead to the belief that the labor situation should not preclude the attainment of the estimated volume of public construction.

Indications are that the peak of private capital expansion has been passed. This raises questions as to the trend of private construction. Is a reduction in the volume of private industrial construction in sight? Will commercial construction slacken its upward movement? Will utilities' construction taper off at less than previously expected highs? Again, would a continued tightening of financing adversely affect the number of housing starts? If the cost situation prevents a drop in the sales prices of housing, does this not indicate a decrease in private housing activity?

Other Modifying Factors

It is difficult to judge if a public housing program will be authorized in time to permit any considerable volume to be put in place in 1949. Another indeterminate factor is the possible extent of the rearmament program. The discontinuance or expansion of the materials allocations program poses questions, as does any action by Congress on the question of F.O.B. pricing. Many items in the consumers' durable goods category are still in strong demand and in competition with many types of construction for the consumers' dollar. Should over-all prices go upward, many individuals could decide against large-scale or long-term construction commitments. The outlook is that construction costs will continue about the same.

Alabama Power Program Progresses in 1948

Alabama Power Co. last year made substantial progress on its 120,000-kilowatt steam plant at Gadsden. The first 60,000-kilowatt unit is scheduled to go into operation in March and the second unit, four months later.

Engineering work is under way for the addition to the Gorgas plant in the coal fields of Walker County. This unit will have a capacity of 100,000 kilowatts and upon its completion will make the Gorgas plant the largest in the South.

Engineering work is also under way on a new 40,000-kilowatt unit for the Chickasaw steam plant at Mobile, thus making a total of 282,000 kilowatts of capacity either under construction or in the blue print stage, including the 22,000-kilowatt hydro unit at Mitchell dam.

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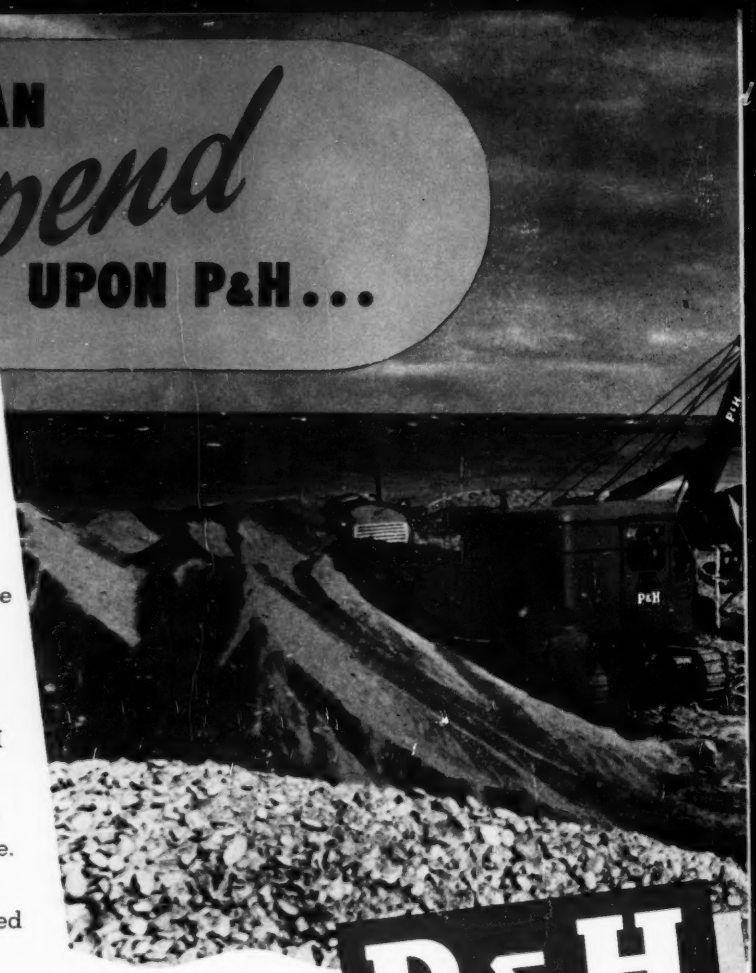

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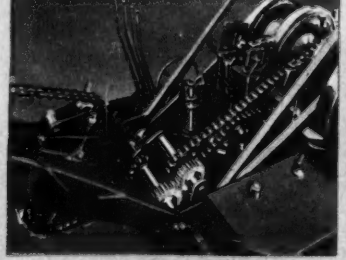

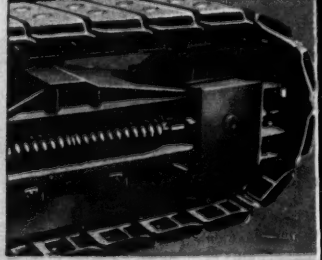

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NASHVILLE 2, Tennessee.....McCarthy, Jones & Woodard
MADISONVILLE, Kentucky.....Minton Machinery and Supply Company
CHATTANOOGA, Tennessee.....Brooks Equip. & Mfg. Co.
LODGE, South Carolina.....The Lodge Auto & Truck Company
RALEIGH, North Carolina.....J. B. Hunt & Sons
MIAMI, Florida.....Neff-Thomas Machinery, Inc.
PANAMA CITY, Florida.....Panama Machine & Supply Company
KNOXVILLE, Tennessee.....Brooks Equip. & Mfg. Co.
SUMTER, South Carolina.....Industrial Equip. Co. of S. Carolina

Above—Left—Construction under way on two 42-inch CMP drainage structure at East End-Fourche Bayou drainage project, Little Rock, Ark. At the right is a Northwest dragline digging the channel.

Little Rock Flood Control Project Protects Large Industrial Area and City Airport

Below—Construction of levee across Fourche Bayou, looking upstream.

MORE than eight million dollars worth of property, including the Little Rock municipal airport, will be protected from floods by the $886,000 project now being pushed by the Corps of Engineers and involving construction of a compacted earth-fill levee, a concrete floodwall, two pumping stations and a diversion channel at the confluence of the Arkansas River and a tributary stream known as Fourche Bayou.

The design involves seven and one-fifth miles of earth levees with a crown width of 10 feet and one on three slopes, one concrete stop-log structure with a 4,800-foot diversion channel to change the course of Fourche Bayou to a route outside the 2,560-acre protected area, two concrete pumping stations for disposal of interior drainage and sanitary sewage during high-water stages, seven drainage structures and a concrete floodwall approximately 500 feet long.

Authorized by the second session of the 78th Congress, the project dates to just after the great flood of May, 1943, when the Little Rock District now commanded by Col. T. A. Lane, made the investigations which showed the economic justification for the work and subsequently resulted in the recommendation for its construction by the Chief of Engineers.

As outlined by Lt. Col. Kenneth H. Newton, executive officer of the Little Rock engineer district, the project was divided into three lots for construction and one contract by which the Government furnishes pumps, motors and switch gear for the pumping stations.

Construction of Lot I, consisting of five and one-half miles of compacted earthfill levee, channel clearing, and excavation of a diversion channel, performed under a $289,800 contract by S. K. Jones Construction Co., of Memphis, Tenn., has been completed. For the hauling and placing of dirt, the Jones Company used a Northwest dragline, Model 80D, with five 11-yard Euclids, two 15-yard Euclids, and three 18-yard Athey wagons (for short hauls at diversion channel), plus the dozers, motor patrols, and other equipment. The work was accomplished under direction of E. K. Jones, partner of the firm, and J. H. McLaurine, superintendent.

Fairbanks, Morse and Co., of St. Louis, Mo., was awarded a contract September 13, 1948, for furnishing and delivering two 22,500 g.p.m. and two 27,000 g.p.m. pumps and motors and required switch gear for the two pumping stations.

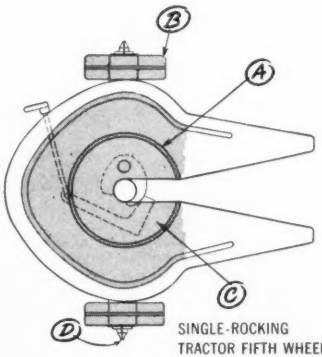
A $389,182 contract was awarded December 2, 1948 to Ben M. Hogan and Co., of Little Rock, for construction of Lot II. This covers the Gregg Street and Bond Street pumping stations, an L-type reinforced concrete floodwall 506 feet in length, installation of government-owned pumps, completion of the one and one-half mile levee embankment, and a stop-log structure. Lot III, consisting of a pressure relief well, is yet to be let by the Little Rock office, which is represented on the project by J. H. Nowell, engineer in charge of construction.

The levee will have an average height of about 10.5 feet and maximum heights of about 35 feet where it crosses Fourche

(Continued on page 56)

STANDARD ENGINEER'S CASE FILE

CASE 1028--MAINTAINING LUBRICATING FILM ON CHASSIS BEARINGS UNDER EXTREME PRESSURES.



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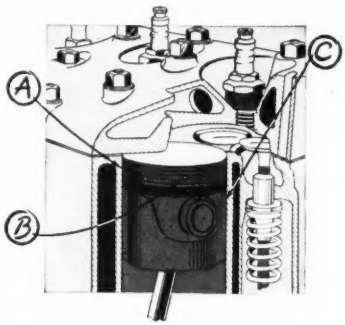
RPM Chassis Grease TB is waterproofed, keeps protective collar at outside edge of shackle bearings.

CASE 1017--REDUCING OVERHAULS IN GASOLINE ENGINES.



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Above—Model E Quick-Way, owned by Howard & Goforth Construction Co., Middlesboro, Ky., digging swimming pool for private residence. It has an International U-9 engine.

Above—Model E Quick-Way owned by Howard & Goforth driving concrete piling for new $50,000 Coca-Cola building at Middlesboro, Ky. It is powered by an International U-9 engine.

EQUIPMENT AT WORK

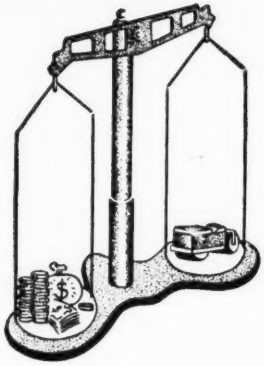
By L. H. Houck

Above—Schramm air compressor, owned by Emory & Richards, Knoxville, Tenn., at Church Street Methodist Church where American Marble Products Co. made alterations.

Below—No. 160 LeRoi compressor and two 85-pound LeRoi jackhammers in use at Kingsport, Tenn., by Wright & Lopez, Inc., Cedartown, Ga. Job is underground conduit ditches for Intermountain Telephone Co.

Below—Caterpillar No. 12 grader, grading a farm road for a private owner in Virginia.

Below—Buckeye rotary ditcher with Buda engine, owned by Morristown, Tenn., ditching new water mains connecting new sub-division housing.



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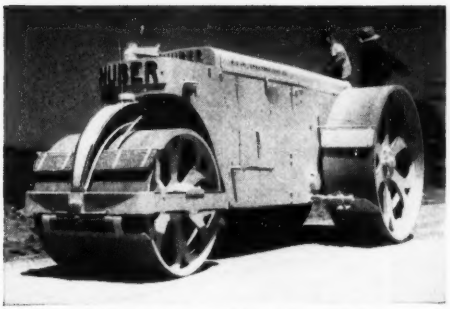

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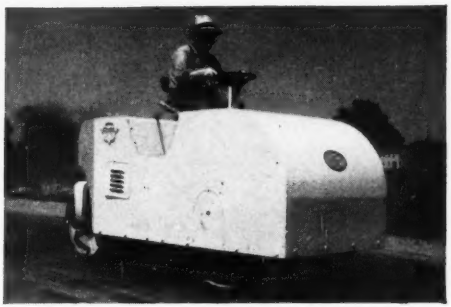

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M. R. HAMELL, INC. (Maintainers only)
Charleston, W. Va.

Southern Construction Projects

INDUSTRIAL

(Continued from page 13)

Board plans $6,830,500 improvements.

TAHOKA — Lyntegar Electric Cooperative has REA loan, $515,000, for 358 miles line and system improvements.

VIRGINIA

CREWE — Southside Electric Cooperative has REA loan, $980,000 for 270 miles line and system improvements.

RICHMOND — Chesapeake and Potomac Telephone Co. of Virginia, plans expenditures of $971,300 for improvement and expansion.

ROANOKE — Norfolk and Western Railway plans six improvements, including position lights, $541,000; engine facilities, $1,514; terminal and station removal, $475,000; central traffic control, $308,000; water supply, $100,000; wash and locker buildings, $106,000; warehouse, $1,700,000.

Contract Stage

ALABAMA

PLEASANT GROVE — Town let contract to Buchanan & Graves, $501,702, for natural gas distribution system, Pleasant Grove.

GEORGIA

ATLANTA — Graybar Electric Co. received low bid, $364,463 from Gilbert Beers, 489 Bishop St., N. W., Atlanta, for office and warehouse building.

KENTUCKY

LOUISVILLE — Louisville Public Library, 4th and York Sts., let contract to Whittenberg Construction Co., 2214 S. Floyd St., for altering Kaufman-Straus Bldg., 427 S. 4th St.; $260,000.

LOUISIANA

ELIZABETH — Calcasieu Paper Co., has excavation and foundation work started on $3,000,000 expansion project, with Brunner Co., Rayne, in charge.

MARYLAND

FREDERICK — Board of Directors of Potomac Edison Co., sold $5,500,000 bond issue to Halsey, Stuart & Co., of New York, to be used for large-scale capital improvements over next several years.

VIENNA — Eastern Shore Public Service Co. of Maryland, 1147 Division St., Salisbury, power plant; $5,000,000.

Below—Ground is broken for the $26,000,000 Garza-Little Elm Dam and reservoir project, Dean Skinner, of Cage and Skinner Construction Co., is shown with Col. B. L. Robinson, under whom the work is being done.

MISSOURI

ST. JOSEPH — Miller Chevrolet Co., 8th and Sylvanie Sts., received low bid from Morris Hoffman, Victor Bldg., Kansas City, at $268,000 for sales and service building, 9th and Jules St.

NORTH CAROLINA

SHALLOTTE — Brunswick Electric Membership Corp. let contract to Boyle Construction Co., Sumter, South Carolina, $487,396, for 319.8 miles line.

UNION COUNTY — Union Electric Membership Corp., Monroe, received low bid, $215,535, from E. C. Bridges, Heath Springs, for REA lines and improvements.

OKLAHOMA

Shell Oil Co. has preliminary construction underway in southwest Missouri and elsewhere for $30,000,000 pipeline from Cushing, Okla., to Wood River, Ill.

SOUTH CAROLINA

ANDERSON COUNTY — Duke Power Co. will begin construction June 1 on $18,000,000 steam power generating plant in Anderson County, on Saluda River.

TENNESSEE

CENTERVILLE — Meriwether-Lewis Electric Cooperative let contract to L. O. Brayton & Co., Dyersburg, at $319,677, for 213.84 miles line.

COLUMBIA — Monsanto Chemical Co. let contract to Rust Engineering Co., Pittsburgh, Pa., for scrubbing towers of the new unit, which is a smoke-washing unit to eliminate fluorine gas present in smoke emitted from the local phosphorus plant, $750,000.

ROGERSVILLE — Holston Electric Cooperative let contract to Killoren Electric Co., Appleton, Wis., for 186 miles line; $550,000.

TEXAS

BELTON — The Brazos River Transmission Electric Cooperative, Inc., 902 Amicable Bldg., Waco, received low bid, $535,980, from E. E. Farrow Co., 6109 Forrest Park Rd., Dallas, for power plant and contiguous structures, Charter Oak Steam Plant.

DALLAS — National Industries Corp. let contract to J. L. O'Rourke & Co., for warehouse and office building, 6214 Cedar Springs Road for American Thread Co., New York, $375,000.

DALLAS — National Industries Corp. let contract to O'Rourke Construction Co., 1001 W. Commerce, for warehouse and office building for United Motors Service Division of General Motors Corp., $500,000.

DALLAS — E. V. McCright & Co., has contract for office and warehouse, 515 S. Latimer at Central Boulevard for Westinghouse Electric Supply Corp., $800,000.

HONDO — Medina Electric Cooperative, Inc., let contract to H. B. Zachry Co., P. O. Box 4570, San Antonio, $330,489, for Section 1, 249 miles line; Sisco Electric Co., 209 Chambers St., Conroe, $272,430, for Section 2, 249 miles line.

HOUSTON — Trans-Continental Pipeline Co., M & M Bldg., let contract to Ray Fish Engineering Corp., M & M Bldg., for pipeline stretching from Texas Rio Grande Valley, to New York City; $200,000,000.

HOUSTON — Goodyear Tire & Rubber Corp., LaPorte Road, let contract to Consolidated Western Contractors, Inc., M & M Bldg., Houston, for plant facilities, LaPorte Road, $500,000.

SAN ANGELO — Slick-Urschel Oil Co., San Antonio, let contract to Texas Natural Gasoline Corp., San Antonio, for gasoline plant; $6,000,000.

SAN ANGELO — Plymouth Oil Co. let contract to Hudson Engineering Co., Houston, for gasoline plant; $6,000,000.

VICTORIA—Aluminum Company of America, Port Lavaca, let contract to Smith Dredging Co., Port Lavaca, for dredging of a 100-foot channel to its new $30,000,000 reduction plant at Point Comfort at Lavaca Bay; Ole Peterson & Son, Houston, has contract for dock project.

VIRGINIA

RICHMOND — Philip Morris & Co., Ltd., Inc., let contact to Wise Contracting Co., Inc., Eighth and Grace Sts., at $222,112, for tobacco warehouse.

ENGINEERING

Proposed Stage

ALABAMA

BIRMINGHAM — City formulating plans for possible conversion of Bays 1 and 2 of the Bechtel-McCone Plant, into an administration building, Municipal Airport, estimated cost from $500,000 to $2,000,000.

BIRMINGHAM — County Commission will hold special bond election January 25, on $18,000,000 bond issue for sewer connecting sewer main at Legion Field with Pratt City disposal plant.

ARKANSAS

FAYETTEVILLE — City plans lake and reservoir north of Fayetteville and extend water lines; $800,000 bond issue voted.

FLORIDA

JACKSONVILLE—City approved $5,000,000 bond issue for water system improvements.

TAMPA — City plans sanitary sewer system, $10,000,000.

MARYLAND

BALTIMORE — City plans for following projects during 1949:

Sludge drying unit at Back River sewage disposal plant, $1,000,000;

Dundalk auxiliary pumping station, $250,000;

Sanitary sewer, $300,000;

Vall Street interceptor; $350,000;

Storm-water drains in advance of paving, $600,000;

Jones Falls force main, $200,000.

BALTIMORE — City plans following projects during 1950:

Pressure sewer, $1,000,000 and $175,000 gravity sewer in Western Run and Jones Falls;

Preliminary settling tank at Back River plant, $350,000;

Eastern Avenue turbo-driven centrifugal pump, $200,000;

Miscellaneous storm-water tank to improve drainage conditions, $100,000; storm-water work in advance of paving, $600,000;

Improvements to Gwynns Falls' sewers, $200,000.

BALTIMORE—City plans following sewer projects during 1951:

Storm water work in advance of paving, $300,000;

Storm water drain at Allendale Road and North Clifton Avenue, $150,000;

Low level intereceptor for eastern section, $400,000.

BALTIMORE — City plans expenditure of $240,000 during 1949, $300,000 in 1950 and $290,000 in 1951 for modernization of Montebello Filters, using day labor.

BALTIMORE — City plans following projects:

Small mains in advance of paving of $700,000;

48-inch main in Mount Royal and Freemont Avenues, cost $780,000;

36-inch main in Ensor Street, $250,000;

In 1950 to expend $700,000 for small mains in advance of paving, and in 1951, $800,000.

BALTIMORE — City contemplates completion of the Lake Montebello Water Tunnel, to continue its work to complete a large dam on the stream to supplement the Gunpowder Falls supply; in 1949, $300,000 will be available for land acquisition for new reservoir, in 1950, $800,000, and in 1951, $875,000.

BALTIMORE COUNTY—Baltimore County plans $400,000 sewer installation program.

TENNESSEE

KNOXVILLE — Knoxville Utilities Board plans $1,500,000 water system expansion program.

NASHVILLE — R. L. Lawrence, Jr., Director of Waterworks Department, approved $4,000,000 bond issue for expansion and improvement of city waterworks system.

TEXAS

BEAUMONT — City approved $1,000,000 bond issue for improvements, extensions and repairs to water facilities.

FORT WORTH — City plans water mains.

(Continued on page 44)

Make Plans Now

To Attend the

American Road Builders' Association

CONFERENCE and 46th ANNUAL MEETING

WASHINGTON, D. C.

February 7-8-9, 1949

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Southern Construction Projects

ENGINEERING

(Continued from page 42)

from Holly Plant to South Side Pump Station, $500,000.

SWEETWATER — City plans dam on Oak Creek in Coke County and 30 miles of connecting pipeline; $2,500,000 water bond issue voted.

WACO — Baylor University plans stadium, $1,000,000.

VIRGINIA

ALEXANDRIA — Alexandria Water Co. of Alexandria, plans $3,500,000 bond issue for refunding outstanding indebtedness, construction, completion and extension of facilities.

NORFOLK — City plans to hold special bond election on $6,250,000 bond issue for water system improvements.

PORTSMOUTH — City plans $1,700,000 sewage disposal plant.

WEST VIRGINIA

WHEELING — Corps of Engineers, Pittsburgh, Pa., plan a $2,000,000 floodwall and super-highway between Warwood and Benwood.

Contract Stage

FLORIDA

ORLANDO — City let contract to Ivy H. Smith Co., Jacksonville, $972,848, for sewage treatment plant.

TAMPA — Corps of Engineers, P. O. Box 4970, Jacksonville, let contract to Standard Dredging Co., 80 Broad Street, New York, $527,510, for construction of dredging in Tampa Harbor.

GEORGIA

AUGUSTA — City sold $1,850,000 bond issue to Blyth and Co., 14 Wall St., New York, N. Y., for sewerage expansion and street improvements.

KENTUCKY

OWENSBORO—Owensboro-Daviess County Airport Board let contract to Green Construction Co., Owensboro, at $603,185, for improvements to airport.

LOUISIANA

BATON ROUGE—East Baton Rouge Parish Police Jury received low bids for sanitary sewerage system for sewerage district no. 9 and also for sanitary sewer improvements in Pitchford-Ourso subdivision; Red River Construction Co., Shreveport, sections A & B, $25,600; section C, clay pipe, $164,916; and concrete, $162,280; Cormeo Construction Co., for Pitchford-Ourso subdivision.

RAPIDES PARISH — Corps of Engineers, New Orleans, received low bid from Pioneer Contracting Co., Inc., Dyersburg, Tenn., $375,540, for 2,845,000 cu. yds. of material from the Diversion Channel Bayous Boufecocodrie, and channel realignment and excavation from Bayous Bouef.

MARYLAND

BALTIMORE — Board of Estimates let contract to Chesapeake Supply and Equipment Co., 1213 E. 25th St., $877,300 for Contract No. 374, constructing and completing Humus Tank improvements, Back River Sewage Treatment Plant.

MISSOURI

NEW MADRID — Corps of Engineers, Memphis, let contract to McCarthy-Pohl Contractors, Inc., 4963 Delmar Blvd., St. Louis, $1,021,829, for St. John's Bayou Floodgate Structure.

ST. LOUIS — Corps of Engineers, received low bid from Batzle Electric Co., 1807 S. 1st St., Minneapolis, Minn., $695,200, for installation of power control and lighting system for Locks No. 27, Mississippi River, Chain of Rocks Canal Project.

OKLAHOMA

TULSA — City let contract to Pennington and Winters, 2911 Apco Tower, Oklahoma City, $284,770 for sewer and force mains; Roberts and Scisson, Tulsa, $140,963 for pump station.

TENNESSEE

CHATTANOOGA — City let contract for Div. 1 to Nello L. Teer Company, Durham, N. C., at $1,078,360, Div. 2 to Dave L. Brown Construction Co., Chattanooga, at $890,605 and for Div. 3 to William S. Anderson Electric Co., Charleston, S. C., at $70,421, for improvements to Lovell Field.

NASHVILLE — Public Works Director, Warren A. Collidge, let contract to J. B. Michael & Co., Memphis, $286,961, for storm sewers in Sylvan Park.

OAK RIDGE — Atomic Energy Commission let contract to W. L. Hailey & Co., 314 32nd Ave., Nashville, $606,656, for new 30-inch water main to Jackson Square and Road H-I and connections.

TEXAS

FREEPORT — Corps of Engineers, 606 Santa Fe Bldg., Galveston, received low bid from Continental Construction Co., Port Lavaca, $949,925, for steel sheet piling guide walls, Gulf Intra-coastal Waterway, floodgates at Brazos River Diversion Channel.

HOUSTON — City Council let contract to Russ, Mitchell, Inc., & Wyche & Bruce, P. O. Box 8056, Houston, $568,508 for North Side sewage treatment plant enlargement, Contract No. 2.

PASADENA — City Council sold $880,000 bond issue to Fridley and Hess of Houston, for public improvements; includes $450,000 for water and sewer improvements.

SAN ANTONIO — City let contract to Reising Construction Co., Edinburg, $624,442 for many city outfall sewer.

Corps of Engineers, Galveston, received low bid from Russ Mitchell, Inc., and Wyche & Bruce Construction Co., 5304 Old Spanish Trail, Houston, $1,399,952, for spillway and outlet works, Grapevine Dam and Reservoir, Denton Creek, Trinity River and Tributaries.

HIGHWAYS, BRIDGES

FLORIDA

ST. PETERSBURG—Board of County Commissioners let contract to W. H. Armston & Co., 357 Scotland St., Dunedin, $1,011,038, for Belleair Beach causeway.

TALLAHASSEE — State Road Department received low bids for projects in following counties:

Pinellas — Grading and draining 7.13 mi. of Rd. 55, and construction of an overpass at Coachman; H. E. Wolfe Construction Co., St. Augustine, $313,351;

Below—Col. David W. Heiman has been assigned to St. Louis as assistant to Col. Clark Kittrell, division engineer of the Upper Mississippi Valley division of the Corps of Engineers. He replaces Col. Richard Lee, who was recently transferred to the Missouri River division to become district engineer of the Fort Peck district.

Dade — Grading and draining 7 mi. of Rd. 9 and constructing 2 concrete and steel bridges between Opalocka and Broward county line; H. E. Wolfe Construction Co., $588,906;

Orange—Clearing, grading and grubbing 5.12 mi. of Rd. 520, Hubbard Construction Co., Orlando, $149,082;

Alachua — Paving 1.81 mi. of Rd. 26; Duval Engineering & Contracting Co., Jacksonville, $129,042;

Leon — Hard-surfacing 52.14 mi. of rural Rds.; A. F. Rich Co., $303,280 and C-E Construction Co., Lakeland, $262,229;

Bradford — Paving 4 mi. of Rd. 18 and constructing 3 concrete box culvert bridges between Hampton and State Rd. 100; James H. Craggs Construction Co., Ocala, $127,716;

Taylor — Grading and draining 10.27 mi. of Rd. 14 and constructing 2 concrete box culvert bridges between Eridu and Madison County line; J. D. Manly Construction Co., Leesburg, $225,748;

Gilchrist—Paving 10.42 mi. of Rd. 337 and 6.93 mi. of Rd. 340; Caddell & Jackson, Jacksonville, $227,269;

Dixie — Paving 12.92 mi. of Rd. 349 and 4.5 mi. of Rd. 357; C-E Construction Co., Lakeland, $481,417;

Brevard — Paving 10 mi. of Rd. 3 between Tropic and Georgiana; C-E Construction Co., $189,252.

Suwannee — State Rd. No. 49, roadwork, small drainage structures and incidental items; J. D. Manly, Leesburg, $167,879.

GEORGIA

BRUNSWICK — City let contract to Tidewater Construction Co., Norfolk, Va., $2,234,210, for reconstruction of existing Brunswick-St. Simons Island Causeway.

KENTUCKY

FRANKFORT — Department of Highways let contracts for projects in the following counties:

Jefferson — Louisville inner belt line road, 2.389 miles, grading, drainage and high type surface; Kelly Contracting Co., Louisville, $173,382;

Wyane — Monticello-Albany Road, bridge and approaches at Otter Creek, R. R. Dawson Bridge Co., Bloomfield, $227,714; bridge and approaches at Beaver Creek, Willner Contracting Co., Winchester, $221,580;

Daviess — Bridge and approaches, Owensboro-Henderson Road; Clarksville Contracting Co., Clarksville, Tenn., $122,340.

Pike — Bituminous concrete pavement on half-mile of Pikesville-Williamson Rd.; Nally & Ballard, Inc., Bardstown, $165,855.

LOUISIANA

BATON ROUGE — Carneigie & Smith, 3000 A. Dalrymple Dr., Consult. Engr., let contract to W. H. Patterson & Co., $125,337 for street paving and necessary storm sewers for Belfair Subdivision.

BATON ROUGE—Department of Highways let contract for projects in following parishes:

Plaquemines — Paving 8.7 mi. of Live Oak-Myrtle Grove Hwy.; W. R. Aldrich & Co., $856,437;

Ascension—Blacktopping 6.4 mi. of Darrow-Sorrento Hwy.; Carruth Contracting Co., $247,786;

LaSalle — Blacktopping about 2.5 mi. of Nebo-Summerville Rd.; J. J. and J. W. McKeithen, Columbia, $122,333.

BATON ROUGE — Louisiana Department of Highways received low bid for projects in the following parishes:

Iberville — State Project No. 50-06-10; bridge consisting of 4—30' I-beam spans, 1—30' steel tower span, 1—150 vertical lift span; grading, small drainage structures, portland cement concrete pavement; Austin Bridge Co., Dallas, Texas, $670,884;

Plaquemines — State Project No. 62-05-13; bridge and approaches at Empire on the New Orleans-Fort Jackson Highway; W. R. Aldrich & Co., Baton Rouge, $412,968;

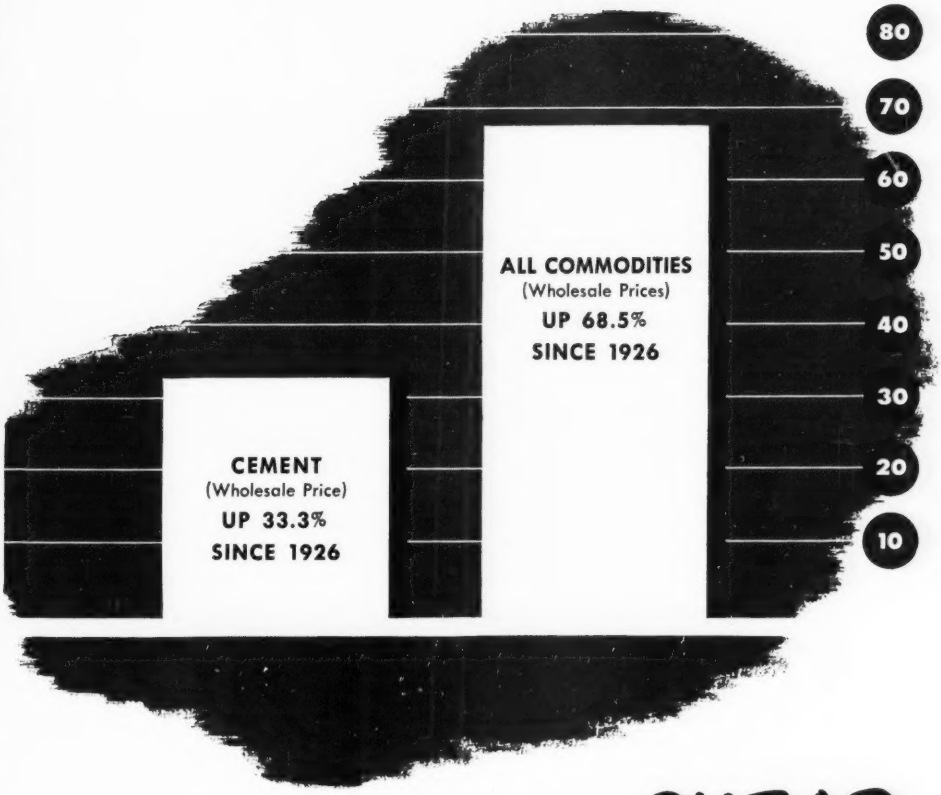
Iberia — New Iberia-Loreauville Hwy., State Rt. No. 56, 4.267 mi. of grading, drainage structures; Forcum-James Co., Box 911, $284,228.

SHREVEPORT — City Council plans $750,000 Allen-Dalzell-Linwood overpass; E. M. Freeman and Associates, Engrs., Shreveport.

MARYLAND

BALTIMORE — City, Thomas D'Alesandro, Mayor, plans following road projects in 1949: Extension of Druid Hill Ave. to Centre St., $900,000;

(Continued on page 46)



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Cumberland Cements

Southern Construction Projects

HIGHWAYS, BRIDGES

(Continued from page 44)

Extension of Mulberry and Franklin Sts., $600,000;

Acquisition of property for the widening of Howard St., from Madison St. to Biddle St., $1,000,000;

Paving of St. Paul St., from University Parkway to Charles St., est. $300,000;

Paving of new streets under agreements by which builders of housing pay half of cost, $700,000.

BALTIMORE — City, Thomas D'Alesandro, Mayor, plans work to start 1950 for Colgate Creek Bridge extension of Brooklyn Highway, including draw span and approaches, $1,000,000.

BALTIMORE — State Roads Commission, 108 E. Lexington St., let contract for following project:

Contract No. B-578-2-415, grading and drainage of a section of York Rd., relocation; Dutcher Construction Co., Queenstown, $753,192

BALTIMORE — State Roads Commission, 108 E. Lexington St., let contract to Nello L. Teer Co., Durham, N. C., for western approaches to the Chesapeake Bay Bridge; C. J. Langenfelder & Son, Inc., Baltimore, for eastern approaches to the Chesapeake Bay Bridge.

BALTIMORE — State Roads Commission received low bids for projects in following counties:

Anne Arundel—Contract No. AA-392-1-358; grading, drainage and surfacing of dual hwy. along Friendship International Airport Rd., 0.582 mi.; Wilmot Paving Co., Washington, D. C., $190,471;

Somerset—Contract No. S-156-1-115; grading, drainage and surfacing of a relocated section of the Westover-Marion Rd., State Rt. No. 413, 7.620 mi.; C. J. Langenfelter & Son, 8427 Pulaski Hwy., Baltimore, Md., $1,029,961;

Caroline-Queen Annes—Contract No. CO-173-2-215; two steel beam and concrete bridges; one over Norwich Creek and one over Tuckahoe Creek on the new Queen Anne-Hillsboro bypass; both of the bridges are to be supported on precast concrete pile; Norwich Creek Bridge is 3-33' spans, with 30' roadway and safety curb on each side; Tuckahoe Creek Bridge is 5-40' spans with 30' roadway and safety curb on each side; Empire Construction Co., 31 S. Calvert St., Baltimore, $154,696.

Queen Anne's-Anne Arundel — Contract No. CBB-7-1-87; construction of filled causeway approximately 2,287' long and 50' wide across the top, consisting of hydraulic fill retained by stone riprap to form a part of East Approach to the Chesapeake Bay Bridge, the dredging of channel 2,200' long and 200' wide; William A. Harting, Lansdowne, Md., $554,250.

MISSISSIPPI

JACKSON — State Highway Commission let contracts for projects in following counties:

Clarke—4.573 mi. grading, drainage structures, bridge, stabilized base and double bituminous surface on Hwy. No. 18; Pigford Brothers Construction Co., Meridian, $229,165;

Humphreys — 4.750 mi. grading, drainage structures, gravel surface course and bridges of county hwy.; Gerald Smith Construction Co., $189,639;

Copiah—12.706 mi. grading, drainage structures and bridges on Hwy. No. 20; Anderson-Gregory Co., Inc., Nashville, $274,169;

Bolivar — 10.865 mi. grading, drainage structures, gravel surface and box bridges on County Hwy.; Gerald Smith Construction Co., Memphis, $172,563;

Attala—11.862 mi. grading, drainage structures and box bridges on Hwy. No. 35; Anderson-Gregory Co., Inc., Nashville, $314,746;

Grenada and Calhoun — 3.848 mi. grading, drainage structures on Hwy. No. 8; Pigford Brothers Construction Co., Meridian, $568,115.

MADISON COUNTY — Public Roads Administration, 305 Medical Arts Bldg., Florence, Ala., received low bid from Smith Engineering and Construction Co., Pensacola, Fla., $323,785, for Proj. 3N6, 3-0-6, Part B, Natchez Trace Parkway.

MISSOURI

JEFFERSON CITY — State Highway Commission let contracts for projects in the following counties:

Jackson—Federal Project No. U1-888(2)A; 0.560 bridge substructure; J. E. Dunn Construction Co., Kansas City, $647,429;

Jackson—Federal Project No. U1-888(2)B; 0.560 bridge superstructure; American Bridge Co., St. Louis, $1,708,405.

ST. LOUIS — City, Milton M. Kinsey, Pres., 304 City Hall, received low bid from Fred Weber Contractor, Inc., 7929 Alabama, $140,024, for letting No. 5204, improving proposed Gustine Ave.

NORTH CAROLINA

RALEIGH — State Highway Commission received low bids for projects in the following counties:

Nash-Edgecombe — Grading soil type base course, concrete pavement and structures of 1.14 miles on U. S. 301; T. E. Brown, Charlotte, roadway, $124,381; Bowers Construction Co., Raleigh, structures, $128,652; Curtis L. Rogester, Scotland Neck, moving buildings;

RALEIGH — State Highway Department let contracts for projects in following counties:

Cumberland—Proj. 3393, etc., roadway and structures; Zeigler-Cline Construction Co., Fayetteville, $148,804;

Buncombe—Proj. 0-154; Suber & Co., Inc., Whitmire, S. C., $124,166;

Harnett-Johnston—Proj. 4387; Boyle Construction Co., Sumter, S. C., $114,701;

Jackson—Proj. 9514; Asheville Paving Co., Asheville, $120,220;

Henderson—Projs. 8280 and 8361; Dickerson Inc., Monroe, $204,609;

Buncombe—3.58 mi. of grading, surfacing and structures, along N. C. 197; H. R. Steward, $110,000.

Pitt Greene—Proj. 1859; Exum-Cline Construction Co., Rocky Mount, $151,887;

Orange—Proj. 5-351; Kiker & Yount, Reidsville, $116,689.

OKLAHOMA

OKLAHOMA CITY — State Highway Commission let contracts for projects in following counties:

Greer—SH 34, 3.886 mi. grading, drainage, multiple box culvert; H. D. Youngman, Oklahoma City, $39,222; also SH 34, 6.797 mi. same type of construction beginning 4 mi. north of Jackson-Greer county line; H. D. Youngman, $60,172; also SH 34, 3.887 mi. stabilized aggregate base, asphalt surface beginning at Jackson-Greer county line; H. D. Youngman, $132,709; and SH 34, 6.797 mi. same type of construction beginning 3.887 mi. north of Jackson-Greer county line; H. D. Youngman, $253,442;

Garfield — SH 74, 1.854 mi. grading and drainage; S. E. Evans Construction Co., Fort Smith, Ark., $27,392; also SH 74, 0.039 mi. bridges, 1 multiple box culvert and 3—60 ft. I-beam span structures, same location; R. R. Tway, Inc., Oklahoma City, $93,036; and SH 74, 7.690 mi. grading, drainage, 4 multiple box culverts beginning 1.893 mi. north of Logan-Garfield county line; Evans Construction Co., $132,743;

Johnston SH 12, 6.936 mi. grading, drainage, multiple box culvert beginning at Ravia; S. E. Evans Co., Fort Smith, Ark., $67,397; also SH 12, 7.739 mi. same type of construction beginning 6.888 mi.; S. E. Evans Co., $121,977;

M'Clain — SH 74, 7.503 mi. grading, drainage, 2 multiple box culverts beginning at South Canadian River bridge; P & H. Construction Co., Oklahoma City, $130,938;

Tulsa — 2.613 mi. grading, minor drain struct., bridges 0.017 mi. in length, 35.7 mi. on U. S. 66; Standard Paving Co., Tulsa, $403,305.

SOUTH CAROLINA

COLUMBIA — State Highway Commission, C. R. McMillan, Commr., plans a dual lane highway from Aiken to Savannah River, approx. $2,000,000, a distance of 17 mi. and including another bridge across the Savannah.

COLUMBIA — State Highway Department let contracts for projects in following counties:

Newberry—S. C. Docket 36,223; Spotts & Co., Newberry, $454,750;

Aiken-Orangeburg — Dockets 2, 262, etc. (road work); W. M. Reagan & Sons, Inc., Weaverville, $130,367.

COLUMBIA — State Highway Department received low bids for projects in following counties:

Aiken—Grading and drainage on U. S. Rt. 1 of 10.802 mi. for a dual lane roadway; Robert Lee, Inc., Manning, $463,662;

Anderson-Greenville—Grading and bituminous surfacing of 1.989 mi. of Rd. 143 and 4.78 mi. of Rd. 84; Hines, $111,106;

Dillon—Grading and bituminous surfacing of 2.449 mi. of Rd. 50, 5.197 mi. of Rd. 60 and also 2.193 mi. of Rd. 28; American Construction Co., Columbia, $118,192;

Fairfield—Grading and bituminous surfacing of 4.534 mi. of Rd. 19 from Rd. 27 by way of Ridgeway to Rt. 219; Hines, $128,867;

Oconee—Grading and bituminous surfacing of 7.198 mi. of Rd. 37 and 1.514 mi. of Rd. 115; Dickinson, Inc., Monroe, N. C., $137,893;

Florence—Grading and bituminous surfacing of 2.603 mi. of Rd. 47, 3.46 mi. of Rd. 36 and 2.023 mi. of Rd. 67; Robert Lee, Inc., $124,331;

Horry—Grading and bituminous surfacing of 6.171 mi. on Rd. 33 and 3.492 mi. of Rd. 45; Hubbard Construction Co., Marion, $134,515;

Lancaster—Grading and bituminous surfacing of 5.388 mi. of Rd. 23, 6.291 mi. of Rds. 20 and 40, 2.733 mi. of Rd. 42 and 1.374 mi. of Rd. 54; Blankenship Brothers, Charlotte, $223,869;

Lexington—Grading and bituminous surfacing of 6.503 mi. of Rds. 9 and 55, 2.367 mi. of Rd. 101 and 0.763 mi. of Rds. 119, 133 and 139 and 179; American Construction Co., $125,295;

Spartanburg—Grading and bituminous surfacing of 3.140 mi. of Rd. 31 to Rd. 46 near Cowpens, 1.343 mi. of Rd. 96 to Rd. 2 and 4.161 mi. of Rd. 43 to Rd. 58 near Buck Creek School; Dickinson, Inc., $139,834;

TENNESSEE

NASHVILLE—State Highway Department let contracts for projects in following counties:

Shelby—Concrete pavement for U. S. 51 from the Mississippi state line to end of concrete pavement north of Whitehaven; Bowyer & Johnson, Jackson, $633,582;

Tipton-Haywood—Resurfacing with bituminous materials of U.S. 70 from the Tipton-Fayette county line to Brownsville; Memphis Stone & Gravel Co., Memphis, $734,717;

Maury—Bowyer & Johnson, Jackson, $212,714;

NASHVILLE—State Highway Department

Cedarapids Pitmaster Gravel Plant crushing and sizing gravel in Missouri. Owner is John D. Petrikin, of Iberia, Missouri.

received low bids for projects in following counties:

Sullivan—Grading, drainage and bridges on 3.2 mi. of State Rt. 1; A. B. Burton, Lynchburg, Va., $268,067;

Jefferson—Grading, drainage and bridges on 7.6 mi. of State Rt. 34; Ralph Mills, Inc., Franklin, Ky., $477,080;

Rutherford—Construction of bridges over Stewart Creek, Overall Creek and Stones River on State Rt. 1; C. F. Rule Construction Co., Nashville, $430,855;

White—Grading, drainage, bridges and concrete paving of 3.2 mi. of State Rt. 1; Stacy Brothers Co., Johnson City, $579,227;

Grundy—Grading, drainage, base and surfacing of 3.1 mi. of secondary No. 4325; Brown Brothers, Chattanooga, $123,267;

Marshall-Williamson-Rutherford—Proj. No. 523-E, widening and resurfacing with bituminous material of section of State Rt. No. 11, 18.—123 mi.; Ralph Rogers Co., Nashville, $390,796;

Williamson-Davidson — Proj. No. 523-F, widening and resurfacing with bituminous material of section of State Rt. No. 11, 25.24 mi.; Wright Construction Co., Columbus, Ga., $483,721.

Knox—Extension of arch bridge and paving with concrete of Broadway between Grainger and Cecil; J. B. Michael Co., Memphis, $107,-391;

Marion—Paving with concrete State No. 2 near Martin Springs and Monteagle; Wright Contracting Co., Columbus, Ga., $516,506;

Wilson—Grading and drainage, including 3 bridges and surfacing with crushed stone secondary Rd. No. 161, Marion Construction Co., $168,225;

Loudon—Grading, drainage and paving with concrete of 1.5 mi. of Broadway in Lenoir City; Wright Contracting Co., $345,-694;

Sumner—Paving with concrete State No. 6 J. B. Michael Co., $465,173;

Knox-Jefferson—Grading and drainage including extension of box-type bridge on State No. 34; Pullen & Owens, $169,137;

Shelby—Construction of underpass and approaches at Southern Railway crossing on Iowa Ave. Construction Co., Memphis, $856,-676;

Hamilton—Grading, drainage and paving with concrete of State No. 2, on Brainerd Rd. in Chattanooga for 2 mi.; Foster & Creighton, $654,672;

Hamblen-Hawkins-Greene—Widening and resurfacing with bituminous materials State No. 34 for 40 mi.; Wesco Paving Co., Chattanooga, $784,502;

Rhea-Roane—Widening and resurfacing with bituminous materials 35 mi. of State No. 29; Wesco Paving Co., $723,800;

Marshall—Grading, drainage, including 5 bridges, and surfacing with crushed stone, State No. 11; R. E. Martin, $413,504;

Sevier—Grading, paving and drainage of .44 of mi. on State No. 71 in Gatlinburg; Stacy Brothers Co., Johnson City, $233,475;

Anderson—Grading, drainage and paving with bituminous concrete 2 additional traffic lanes and resurfacing of existing pavement on 3.7 mi. of State No. 9 near Clinton; R. B. Tyler Co., Louisville, Ky., $657,135.

TEXAS

AUSTIN—State Highway Department plans projects in following counties:

Webb—State Hwy. 202 from 22 mi. northeast of Laredo to Duval County line, approx. 24 mi., estimated cost $240,000;

Duval—State Hwy. 202 from Webb County line to Freer, approx. 13.4 mi., estimated cost $134,000.

Trinity — Three farm-to-market hwys., $142,400;

Webb—46 mi. of construction authorized on State 202 near Laredo, $460,000;

Brewster—20 mi. of construction on State 118 south of Alpine, $210,000.

AUSTIN—State Highway Commission let contracts for projects in following counties:

Karnes—Proj. No. V 1121-1-1, Hwy. FM 792; Killian-Hottse Co., P.O. Box 1981, San Antonio, $136,333;

Andrews—Proj. No. V 1127-1-1, Hwy. No. FM 781; Ernest Loyd, P.O. Box 1120, Fort Worth, $190,459;

Harris—Proj. No. U1 32(4), Hwy. US 75; R. P. Farnsworth & Co., P.O. Box 74, Houston, $1,701,549;

Rusk—Proj. No. F 203 (11), Hwy. US 79; E. W. Hable & Sons, Corsicana, $263,817;

Duval—Proj. No. S 401(2), Hwy. St. 202; W. S. Crawford Co., 4817 Montrose Blvd., Dallas, $124,869;

Jasper and Orange—Proj. No. V 710-1-1, etc., Hwy. FM 105; John F. Buckner & Sons, P.O. Box 76, Cleburne, $140,263;

Concho—Proj. No. V 870-4-1, Hwy. FM 765; Thomas & Ratliff, Rogers, $110,192;

Denton—Proj. No. C 353-2-10, Hwy. St. 114;

(Continued on page 48)

Southern Construction Projects

HIGHWAYS, BRIDGES

(Continued from page 47)

Public Construction Co., P.O. Box 389, Denton, $104,410;

Palo Pinto—Proj. No. F 414(3), Hwy. US 281; Wallace & Bowden, 5513 E. Grand Ave., Dallas, $190,967;

Cooke—Proj. No. F1 214(7), Hwy. US 77; Worth Construction Co., P.O. Box 531, Fort Worth, $642,289;

Freestone—Proj. No. S 1111 (1), Hwy. FM 488; W. O. Pelphrey, 1714 Electric Bldg., Fort Worth, $135,951;

Ector—Proj. No. F 235 (6), Hwy. US 80; H. L. Butler & Son, P. O. Box 7112 Dallas, $170,-967;

Mason—Proj. No. F 293 (2), Hwy. No. US 87 and St. 151; Dean Word Co., P.O. Box 351, New Braunfels, $240,371;

Wheeler—Proj. No. FG1 (15), Hwy. US 66; Bell, Braden, Barker & Gilvin, Inc., Herring Hotel Bldg., Amarillo, $103,003;

Moore and Hartley—Proj. No. V 727-6-1, Hwy. No. FM 721 & 722; Bryan & Hoffman, 421 Scaggs Bldg., Plainview, $235,535;

Karnes—Proj. No. V 1122-1-1, etc., Hwy. No. FM 791 and 744, H. R. Henderson & Co., P.O. Box 313, Marshall, $114,093;

Jim Hogg—Proj. No. 329-1-1, Hwy. FM 649; Thomas & Ratliff, Rogers, $104,131;

Bee—Proj. No. F 551 (9), Hwy. No. US 59; Southern Contracting Co., 1901 Meadow Brook Dr., Austin, $144,816;

Cass—Proj. No. S 1023(1), Hwy. No. FM 250; Dew Construction Co., Inc., P.O. Box 641, Tyler, $170,778;

Swisher and Briscoe—Proj. No. V 357-6-1, etc.; Hwy. No. FM 146; R. W. McKinney, P. O. Box 190, Nacogdoches, $146,963.

FORT WORTH—City, W. O. Jones, Mgr., received low bid from Brown & Root, Inc., $125,974, for paving on West Rosedale Ave.

HOUSTON—City, M. H. Westerman, Sec., let contract to Russ Mitchell, Inc., 2302 Jefferson St., $163,960, for relocating and paving South Houston-Garden Villas Rd., approx. 1.7 mi.

LULING—City, John N. Brigance, Mayor plans street improvements, $500,000.

VIRGINIA

RICHMOND—State Highway Department received low bid for projects in following counties:

Nelson—U.S. 29 and State Rt. 6, 1.12 mi. of new macadam Rd. and bridge over Rockfish River at Wood's Mill; Albert Brothers Contractors Inc., Salem, $108,560;

Charlotte—Rt. 672, 8.16 mi. grading and surfacing; Highway Paving Co., Richmond, $110,221.

WEST VIRGINIA

CHARLESTON—State Roads Commission received low bids for projects in following counties:

Calhoun—Proj. S 552 (1), Adam-Rocksdale Rd., Odum Construction Co., Huntington, $127,555;

Marion—Proj. S. 517(1), Katy Junction, Sec. 21; F. F. Earp, Fairmont, $118,576;

Preston—Proj. S 523(1), Brandonville Rd.; Stickley Brothers, Keyser, $143,492;

Wetzel—Proj. S. 578(1), Littleton, Rt. 7; Keeley Construction Co., Clarksburg, $101,-108;

Wood—Proj. F 158(16), Parkersburg-Williamstown Rd.; Andersons, Inc. & W. Va. Black Rocker, City, $673,830;

Wirt—Federal Project No. S-546(1); Greencastle Bridge No. S 1770 over Hughes River, two 95 ft. and 120 ft. continuous steel-I-beam spans on concrete substructure; W. R. Orders, St. Albans, $109,785.

PRIVATE BUILDING

Proposed Stage

ARKANSAS

BLYTHEVILLE — First Baptist Church plans church, 8th and Walnut Sts.; $350,000.

DISTRICT OF COLUMBIA

WASHINGTON — Berla & Abel, Archts., plan apartment, 17th and Massachusetts Ave., N. W., next to Bay State Apartments; $2,000,-000.

WASHINGTON — Adas Israel Congregation plans $1,250,000 temple, Connecticut Ave. and Porter St., N. W.

FLORIDA

FORT LAUDERDALE — O. M. O. Corp. plans $500,000 hotel.

ST. PETERSBURG — Sears, Roebuck & Co. soon lets contract for department store alterations; $450,000.

GEORGIA

AUGUSTA — P. S. Knox plans $14,000,000 housing project.

COLUMBUS — St. Paul Methodist Church plans $500,000 project in Wildwood area.

MARYLAND

SALISBURY — The Boulevard Apartments Co., Inc., plans 48-apartment development in Camden Area, fronted by Monticello Ave., South Blvd., Smith St. and Hanover St.; cost between $350,000 and $400,000.

MISSISSIPPI

JACKSON — Ellis W. Wright, Y.M.C.A. Pres., plans campaign to raise funds for Y.M.C.A. building; $350,000.

MISSOURI

KANSAS CITY — Appleman Home for Aged Jews plans $500,000 Home for Aged, 78th and Holmes Sts.

TEXAS

AUSTIN — Corps of Engineers, Galveston District, plans 104-unit housing project at Bergstrom Air Force Base; $1,500,000.

BEAUMONT — First Baptist Church plans building, housing chapel, Sunday school, recreation and nursery facilities; $350,000.

CAMP HOOD — Corps of Engineers, Galveston District, plans housing project; $3,400,-000.

DALLAS — East Grand Avenue Baptist Church, 1106 Graham, plans $600,000 auditorium-education building at Glasgow and Grand Aves.

FORT WORTH — University Baptist Church plans church, Forest Park Blvd. and Park Hill Dr.; $350,000.

HOUSTON — Deepwater Homes Development Co., Inc., plans 700 residences, $3,700,-000, and community center, $500,000.

HOUSTON — James H. Edmunds, Oak St., plans 300 residences, between Bellaire Blvd. and Brae Burn Dr.; $2,750,000.

HOUSTON — Windsor Park, Inc., plans residential subdivision north of Ship Channel; $2,500,000.

HOUSTON — J. Weingarten, Inc., plans $8,500,000 expansion program in Harris County and Gulf Coast area.

HOUSTON — Battelstein's Department Store plans $1,000,000 expansion.

HOUSTON — Fairworth Co., Inc., plans shopping center on Silber Rd., between Westview Terr. and new development; $350,000; also 50 dwellings, Westview Terr., $375,000; and 100 dwellings near Silber and Long Point Rds., $750,000.

HOUSTON—Home Owned Properties, Inc., Scanlan Bldg., plans 265 residences north of Ley Rd., east of Settegast Rd. and north by Halls Bayou; $1,100,000.

HOUSTON — Meadowbrook Co. plans 350 residences in Section 2; $1,236,000.

HOUSTON — William G. Farrington, 1719 Sunset Blvd., plans residences in Tanglewood Subdivision; $4,250,000.

RANDOLPH FIELD — Corps of Engineers, Galveston District, plans housing project, Randolph Air Force Base; $1,000,000.

SAN ANTONIO — Corps of Engineers, Galveston District, plans housing project, Lackland Air Force Base; $1,000,000.

SAN ANTONIO — National Hotel Co., Anico Bldg., plans Menger Hotel addition and remodeling; $1,000,000.

TEXAS CITY—R. W. Davis, L. B. Christenson and Dee Walker plan hotel building; $1,000,000.

WEST VIRGINIA

WHEELING — Edgewood Park Methodist Church plans church, educational units and parsonage; $500,000.

Contract Stage

ALABAMA

BIRMINGHAM — Joseph H. Canter and Marvin Warner let contract to J. H. West, 1210 Ave. N, for 95 apartment units; $500,000.

MONTGOMERY — Bragg Apartments, Inc., let contract to Algernon Blair, First National Bank Bldg., for 80 apartment units; $400,000.

MONTGOMERY — Turner Brothers let contract to Algernon Blair, First National Bank Bldg., for 100 duplex homes; $500,000.

FLORIDA

MIAMI — Miami Stadium, Inc., let contract to Taylor Construction Co., 1776 Purdy Ave., Miami Beach, for baseball stadium and sports center, NW 10th Ave. and 23rd St.; estimated cost $500,000; to be leased to Magic City Baseball Club, Inc.

NORTH MIAMI — Morris Builders, Inc., 11900 NW 7th Ave., will build 62 residences; $300,000.

ST. PETERSBURG — Master Mode Homes will build 22 residences; $450,000.

GEORGIA

ALBANY — Sowega Enterprises, Inc., will build 300 residences; $350,000.

ATLANTA — M. L. Merritt, 211 Sisson Ave., N. E., will build by force account, 56 residences; $350,000.

AUGUSTA — Knox Corp., Thomson, will build 250 residences in Fleming School Community; $750,000.

AUGUSTA — R. E. Clarson, Inc., St. Petersburg, Fla., awarded contract at approximately $540,000 by F. W. Woolworth & Co., for store building.

FORT OGLETHORPE — East Tennessee Co., Dick A. Hunt, Pres., plans 400 residences; $3,200,000.

LOUISIANA

NEW ORLEANS — South Lake Realty Co. of Chicago, Frank Dane, 510 Conti St., New Orleans, let contract to B. Swartz, 105 W. Monroe Ave., Chicago, Ill., for $2,500,000 hotel on lakefront.

NEW ORLEANS — Lake Shore, Inc., 4400 Paris Ave., let contract to Shelby Construction Co., 4523 Paris Ave., for 12 apartment buildings at Mirabeau and Duplessis Sts.; $428,000.

NEW ORLEANS—California Oil Co., Canal Bank Bldg., announced contract award to Keller Construction Corp., 7900 Palm St., for $2,000,000 office building, Tuland Ave. and Elks Pl.

NEW ORLEANS — General Enterprises, Inc., T. Howson Lynch, Calan Bank Bldg., Bldg. Mgr., let contract to Keller Construction Co., 7900 Palm St., for $2,000,000 office building.

SHREVEPORT — Neild & Somdal, Archts., City Bank Bldg., completing plans for $500,-000 store on Milam and McNeil Sts., for Estate of W. Harry Johnson.

MISSOURI

KANSAS CITY — Alexander Hamilton Apartments, Inc., let contract to Metcalfe-Hamilton Construction Co., Railway Exchange Bldg., at $550,000, for apartment building, Armour Blvd. and Holmes St.

SOUTH CAROLINA

COLUMBIA — H. R. Burg has construction underway by M. B. Kahn Construction Co. for $1,000,000 apartment building, southwest corner Marion and Senate Sts.

FLORENCE — First Baptist Church, received low bid, $415,776 from Crosland Construction Co., Columbia, for church.

GREENVILLE — Belk Simpson Co. received low bid, $367,121, from McKoy Werry Co., Spartanburg, for alterations and additions to store.

TENNESSEE

NASHVILLE — Evans & Morris, 816 8th Ave., S., will build 226 residences; $1,417,500.

NASHVILLE — Herschel Green, 329 Union St., will build 201 residences; $1,750,000.

TEXAS

BAYTOWN — Memorial Baptist Church received low bid from Tellepsen Construction Co., 3900 Clay Ave., Houston, at $404,444, for building.

DALLAS — Merchandise Mart, Inc., negotiated contract with George P. O'Rourke Construction Co. of Dallas and Houston, for merchandise mart building, cost $7,000,000.

FORT WORTH — Ridglea Housing Corp., P. O. Box 965, will build 98 frame residences; $480,000.

HOUSTON — South Main State Bank let contract to Benson Co. for new structure, Main and Rosalie; $325,000.

HOUSTON — F. A. Hunter, 5007 Telephone Rd., will build apartment buildings, Lum Terrace; $1,100,000.

HOUSTON — C. O. Beeler, 5047 Marietta Lane, will build 25 residences, Riverside Terr., Section 22; $340,000.

HOUSTON — Home Owned Estates and Affiliated Building Companies, 1001 Market St. Rd., will build 150 residences, Greens Bayou area on Houston Port Arthur Hwy.; $550,000.

LUBBOCK — Broadway Church of Christ let contract to BMFP Construction Co., 1915 Avenue Q, Lubbock, at $634,800, for church.

PORT NECHES — Wilton Hebert, will build 60 residences; $360,000.

SAN ANTONIO — Johnnie Chuoke, 116 Tuttle Rd., will build by force account, 18 residences, east of Broadway; $475,000.

SAN ANTONIO — L. E. Fite & Co., 1001 Donaldson St., will build 150 residences in Jefferson Area; $350,000.

WICHITA FALLS—Floral Heights Methodist Church let contract to Taylor Howell, Box 397, Wichita Falls, for church, $457,258.

VIRGINIA

HENRICO COUNTY — Duke Construction Co. awarded $3,500,000 contract for apartment project on north side Horsepen Rd. in Crestview.

HENRICO COUNTY — B. C. Cobb awarded contract for $1,350,000 apartment houses, northwest corner Spring Dr. and Hilliard Rd., in Lakeside Area.

QUANTICO — Bureau of Yards and Docks received low bid, $499,540, from Home Building Corp., Sedalia, Mo., for Spec. 21452, 60 houses.

PUBLIC BUILDING
Proposed Stage

ALABAMA

BIRMINGHAM—City plans 10-story city hall, $2,500,000.

DECATUR—Board of Education will receive bids sometime in February for $1,000,000 junior-senior high school.

DISTRICT OF COLUMBIA

WASHINGTON—Dr. George D. Strayer recommended to Congress a $38,000,000 school construction program.

WASHINGTON—Ways & Means Committee, Rear Admiral C. R. Train, U.S.N. (Retired), Chmn., announced construction of new Children's Hospital, 13th and W Sts., NW, $1,898,000.

FLORIDA

MIAMI BEACH—City Council plans bond election early in February on $1,500,000 for public improvements.

PENSACOLA—Baptists, Rev. Aubrey B. Allen, pastor of the Olive Baptist Church, Chmn., has financial campaign underway to raise money to help finance Baptist Hospital, estimated cost $1,200,000.

ORLANDO—Navy Department, Charleston, S. C., laboratory, including power house, 2 piers, $1,120,000.

GEORGIA

ATLANTA—Fulton County Board of Education plans $5,000,000 bond issue for school buildings.

LOUISIANA

BATON ROUGE—East Baton Rouge Parish School Board approved $8,000,000 bond issue for school building.

CROWLEY—Acadia Parish Police Jury approved issuance of $1,000,000 bond issue for courthouse.

SHREVEPORT—Hospital Board of Directors to have plans ready about April or May, 1949, for $8,000,000 Confederate Memorial Hospital.

MARYLAND

Maryland Council of Education, Dr. Thomas J. Pullen Jr., State Supt., of Schools, outlined five year school building program, $139,800,000.

Dr. Thomas G. Pullen, Jr., State Supt. of Schools, request a public schools budget totaling $31,987,889 for 1950 fiscal year.

BALTIMORE—City plans to have work underway in 1949 for new People's Court Building, $1,000,000.

(Continued on page 50)

PUBLIC BUILDING

(ontinued from page 49)

BALTIMORE—City plans home for the aged at City Hospitals, $3,600,000.

BALTIMORE—City plans new tuberculosis sanitorium at City Hospitals; $2,226,000.

BALTIMORE — Corps of Engineers, plans 300-bed tuberculosis hospital at Loch Raven Boulevard and the Alameda, for Veterans' Administration, $5,000,000.

BALTIMORE—Board of Estimates approved transfer of property, to Department of Health, as sites for Health District Buildings, $1,000,000.

BALTIMORE COUNTY—Baltimore County Board of Education plans $16,000,000 school building program.

HAGERSTOWN—Board of Trustees of Washington County Hospital, launched campaign underway for a $1,650,000 expansion program.

ROCKVILLE—Montgomery County School Board, H. Stanley Stine, Pres., plans $9,000,000 school program for next two years.

WESTMINSTER—Carroll County School Board approved $1,500,000 bond issue to improve school buildings.

MISSISSIPPI

GULFPORT—Harrison County approved issuance of $175,000 bond issue as the County's share for $1,000,000 100-bed hospital.

HATTIESBURG—School Board of Trustees, has approved $1,500,000 enlargement program for Mississippi Woman's College.

JACKSON — Martin Miller, Meridian, recommended a program to Board of Trustees, of state institutions of higher learning, to provide 23 additional dormitories at Mississippi Universities and colleges, $9,000,000.

JACKSON—State Building Commission announced that a 20-acre tract in Old Asylum area, north of Jackson, has been set aside, as site for $3,000,000 Jackson Memorial Hospital.

JACKSON—Hinds County Board of Supervisors, contemplates $1,000,000 County Hospital.

NORTH CAROLINA

GREENVILLE—Board of Trustees plans 120-bed $1,440,000 Community Hospital.

OKLAHOMA

NORMAN—Central State Hospital plans addition and alterations to hospital, $780,000.

NORMAN—University of Oklahoma, plans expansion of Oklahoma Memorial stadium on Owen Field, $1,000,000.

TENNESSEE

University of Tennessee plans pathology building at Memphis; chemistry building, girl's dormitory and college of business building at Knoxville, $8,000,000.

JACKSON—City plans two new elementary school buildings $1,000,000.

KNOXVILLE—University of Tennessee, plans $24,000,000 school building program, for 13 buildings.

NASHVILLE — Tennessee Conservation Commission contemplates expenditure of $5,000,000 for improvements to State Parks.

NASHVILLE—State plans Library Building, $1,500,000.

TEXAS

AUSTIN—State Board of Control, seeking $21,000,000 to finance an expansion program for Eleemosynary Institutions.

DALLAS—Southern Methodist University's Board of Trustees plans $15,000,000 expansion.

EL PASO — Province Memorial Hospital plans 200-bed Memorial Hospital and Nurses' Home, $1,000,000.

HOUSTON—M. D. Anderson Hospital for Cancer Research plans hospital, $4,712,000.

HOUSTON—University of Houston, plans student religious center building, includes library building, $1,200,000; and student religious center building, $300,000.

HOUSTON—Methodist Hospital plans 300-bed general hospital, Texas Medical Center, $3,000,000.

HOUSTON—Dr. David Greer, c/o Texas Children's Foundation, plans 200-bed hospital for Children, Texas Medical Center, $3,000,000.

HOUSTON — Harris County plans Courthouse and general remodeling of present building, $7,700,000.

HOUSTON—Glenn McCarthy has offered city a 100-acre site near Playland Park, for a 100,000 capacity Memorial Stadium, $5,000,000.

HOUSTON—Memorial Hospital, 602 Lamar St., plans addition to present hospital, Lamar at Louisiana, $2,000,000.

LAMARQUE — Galveston plans County Mainland Hospital, $1,000,000.

LUBBOCK—Lubbock County, plans courthouse; $1,500,000 bond issue approved.

MARSHALL—Bishop College plans combination classroom-science hall and college chapel-school, $1,000,000.

SAN ANTONIO—Robert B. Green Memorial Hospital plans addition and alterations to hospital, $1,200,000.

SAN ANTONIO—Bexar County, has application approved by Public Health Service for expansion and alterations to Robert B. Green Hospital, $1,260,000.

WACO—Providence Hospital, Daughters of Charity of St. Vincente DePaul, Sister Mary Callahan, plans 100-bed addition, $1,059,000.

VIRGINIA

LYNCHBURG—State Hospital Board, Richmond, approved drawings and specifications for $2,000,000 construction at Lynchburg Colony.

PRINCE GEORGE—Prince George County School Board proposes $25,000,000 school program.

ROANOKE — City plans voting March 1, tentative date, on $5,000,000 bond issue for school improvement program also $25,000 library and $250,000 health center.

SPOTSYLVANIA — Spotsylvania County School Board of Education plans high and elementary school for colored, $375,000; and elementary school for white, $425,000.

STAUNTON—State Hospital Board, Richmond, authorized Western State Hospital to proceed with preparation of working drawings for a new receiving unit $2,000,000.

WEST VIRGINIA

WEIRTON — City plans $3,000,000 municipal hospital.

Contract Stage

ALABAMA

AUBURN—Alabama Polytechnic Institute, received low bid from Raymond M. Lee Co., 1004 Edgewood Avenue, Atlanta, Ga., $473,658, for addition to stadium.

ARKANSAS

BENTON—Arkansas State Hospital, Little Rock, let contract to Linebarger Construction Co., 115 N. Spring St., Little Rock, for ward and infirmary building, Benton Unit, $1,450,000.

DISTRICT OF COLUMBIA

WASHINGTON—Howard University received low bid from F. H. Martell Co., Washington, $1,554,000 for womens dormitories; Otis Elevator, Washington, $39,795 low for elevator and dumbwaiters.

WASHINGTON — District Commissioners, District Bldg., let contract to Cramer-Vollmerhausen, 2601 Connecticut Ave., NW at $1,274,000 for garage and shops for Division of Sanitation.

WASHINGTON—Public Buildings Administration received low bid from Draco Corp., Pittsburgh, Pa., at $1,614,840 on Bid 1 and at $870,260 on Bid 2, constructing additional boilers, West Central Heating Plant.

FLORIDA

Clearwater — Board of Pinellas County Commissioners, received low bid from Paul Smith Construction Co., Tampa at $525,000, for Pinellas County Jail.

GAINESVILLE—University of Florida let contract to C. A. Pielland, Inc., Tampa, $982,800, for office building.

LANTANA — Florida State Improvement Commission, Delray Beach, let contract to Arnold Construction Co., 7 Murray Bldg., Palm Beach, for tuberculosis sanatorium U.S. Highway 1, $1,839,855.

TALLAHASSEE—Florida State University let contract to Paul Smith Construction Co., Tampa, $497,266 for science building.

TALLAHASSEE—State Board of Control, Orlando, let contract to Beers Construction Co., 70 Ellis St., NE, Atlanta, Ga., at $1,574,000 for hospital for Florida A & M College for Negroes.

LOUISIANA

BATON ROUGE—East Baton Rouge Parish School Board let contract to Keller Construction Co., 7000 Palm St., New Orleans, $479,945, for Louise High School.

NEW ORLEANS—St. Dominic Church received low bid from Lionel F. Favret, 937 Gravier St., New Orleans, $476,346 for parochial school.

MARYLAND

CHESTERTOWN — Kent County School Building Commission received low bid from William F. Sutter, Nescopeck, Pa., $914,000, for Chestertown High School and Garnett High School in Chestertown; Rock Hall High School in Rock Hall; Galena Elementary School in Galena.

ODENTON—Board of Education of Anne Arundel County, Annapolis, let contract to Consolidated Engineering Co., Inc., 20 E. Franklin St., Baltimore, $1,492,000 for Odenton School.

MISSISSIPPI

BATESVILLE—Batesville Special Consolidated School District, let contract to Consolidated Contractors, Memphis, Tenn., $410,868 for new high school.

MISSOURI

OVERLAND—Ritenour Consolidated School District, let contract to Lecontour, Construction Co., 4903 Delmar Blvd., St. Louis, $429,974, for school.

SPRINGFIELD—Frisco Employees' Benefit Hospital Association, received low bid from H. B. Deal & Co., 1218 Olive, St. Louis at $631,877, for hospital; Southard Engineering Co., Land Bank Bldg., Springfield, low on plumbing and heating at $384,382.

NORTH CAROLINA

RALEIGH—North Carolina State College of Agriculture and Engineering, let contract to J. A. Jones Construction Co., Charlotte, $948,700, for general engineering laboratory building.

OKLAHOMA

STILLWATER—A & M College received low bid from J. J. Bollinger Construction Co., Braniff Bldg., Oklahoma City, $967,600 for residence hall.

TULSA—Tulsa County School Board let contract to W. R. Grimshaw Co., 1328 Hunt Bldg., Tulsa, $1,440,000 for school.

SOUTH CAROLINA

GREENVILLE — Board of Trustees of School District of Greenville, let contract to Daniel Construction Co., Greenville, $561,769 for alterations and additions to Sterling High School.

GREENVILLE—Greenville County Board of Commissioners let contract to Daniel Construction Co., Greenville at $674,100, for Courthouse and Office Building.

TENNESSEE

CHATTANOOGA—State, Purchasing Agent and Tuberculosis Commission, Nashville, let contract to Foster & Creighton, Nashville at $1,826,000 for tuberculosis hospital.

NASHVILLE—State Purchasing Agent, let contract to C. F. Rule Construction Co., Nashville, at $722,225, for dormitory building, Central State Hospital.

TEXAS

AUSTIN—University of Texas, Board of Regents, Main Bldg., No. 104, received low bid from Nathan Wohlfeld, P.O. Box 7084, Dallas, low at $2,079,536, for science building and $962,733, for student health center.

DALLAS—Dallas Independent School District let contract to Nergaard and Shaw, 2933 N. Henderson, $673,675, for C. F. Carr Elementary School.

DALLAS—Board of Education received low bid from Norgaard and Shaw, 2933 N. Henderson, Dallas, $498,000, for addition to Mayle Lawn Elementary School.

HOUSTON—Corps of Engineers, Galveston District, Galveston, received apparent low bid from Robert E. McKee, Dallas, at $18,317,000, for 1089-bed neuro-psychiatric hospital, Old Spanish Trail and Almeda Road, for Veterans Administration; Westinghouse Electric Corp. Elevator Div., Jersey City, N. J., submitted bid of $470,380 for elevators and dumbwaiters.

SAN ANGELO—San Angelo Independent School District let contract to Templeton and Cannon, 208 Central National Bank Bldg., San Angelo, $508,720, for junior high school.

VIRGINIA

ALEXANDRIA—Board of Education received low bids for additions to Maury Elementary School and for additions to MacArthur Elementary School; Lee T. Turner, Washington, D. C., $226,877, for Maury School; Rogers and McGrath, Inc., Washing-

(Continued on page 60)

Equipment and Material Makers' News

Allis-Chalmers Announces BD-3 Motor Grader

Allis-Chalmers BD-3 Motor Grader

A new BD-3, the most powerful motor grader in its class and the third new grader to be introduced by Allis-Chalmers Manufacturing Co. in six months, has been announced by the company's tractor division. This powerful 19,042 pound unit embraces many famous features of earlier Allis-Chalmers graders in addition to new developments designed to assure maximum performance for contractors, state, county and municipal highway departments, and other users of grader equipment.

Matching the rugged structure of the new BD-3 is a 78 brake h.p. General Motors 2-cycle diesel engine. This instant starting 3-cylinder engine provides the power to move capacity loads at increased speeds. Unit injection, 4-way cooling and readily available engine parts that are interchangeable with all other General Motors "71" series engines expedite economic field and shop service, an important factor which governs the success of most operations.

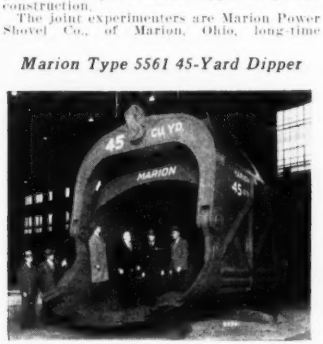
The BD-3 is recommended for both construction and maintenance operations. A tubular frame gives the unit a strong rigid backbone and also permits enclosed controls which cannot be knocked out of commission. Mechanically controlled front mounted lift cases provide direct down pressure which, in turn, maintains rigid blade settings measured to a fraction of an inch. A 28 inch throat clearance enables the BD-3 to handle bigger windrows. An involute design of the famous and exclusive Allis-Chalmers "Roll-Away" moldboard expedites handling of bigger windrows because material is rolled, not pushed. The blade has a full 360° swing which enables the operator to grade either forward or reverse. A shorter turning radius makes the BD-3 ideal for narrow roads and streets.

Largest Shovel Capacity Made Still Bigger

Capacity of the world's largest shovel is being made 5 cubic yards greater in a spectacular experiment just begun in southeastern Ohio's coal stripping fields. A 45 cubic yard dipper has just been installed on a Marion 5561 shovel owned by Hanna Coal Co. to probe the "economic ultimate" of modified armor plate steel in power shovel dipper design and construction.

The joint experimenters are Marion Power Shovel Co., of Marion, Ohio, long-time

Marion Type 5561 45-Yard Dipper



builders of the world's largest power shovels, and the Hanna Company. The big new dipper was delivered by truck late in October, and has been in use since December 1.

If the experiment is a success, a five cubic yard load of earth and rock will be able to "hitch-hike" a free ride every minute as the shovel strips away overburden to uncover seams of coal lying as deep as 80 feet under the earth's surface. The five-yard increase in dipper capacity, incidentally, is the equivalent of an average-size dump truck load. By adding this much capacity to each of the one-minute digging cycles of the Marion 5561, the two companies hope to increase greatly the amount of stripping the big shovel can handle.

Just two years ago, Marion made world news by fabricating war-developed modified armor plate steel into a 40-cubic yard dipper. Prior to that, a 35-cubic yard dipper had been the the world's largest, and only by using the new stronger steel in lighter sections could the increase to 40-yard capacity be achieved. Since that time, nine of the big 40-yard dippers have been built and placed in service. With their practicability fully proved and with field experience on hand to indicate that the new five-yard increase in capacity may be practical, the Marion and Hanna companies jointly undertook the experiment to "make the new steels work a little harder" and learn whether a 45-yard dipper might prove as practical as a 40-yard.

Adrien F. Busick, Jr., Marion chief engineer, pointed out that "economical ultimate" of the modified armor plate steels being used will be learned through study of several factors. One of these factors is weight. The new 45-cubic-yard dipper, fully loaded, weighs no more than the 35-cubic-yard dippers of three years ago, fully loaded. Consequently, the weight factor appears to be solved, provided the new dipper has sufficient strength in all of its component parts.

Link-Belt Issues Catalog on Trolley Conveyors

Link-Belt overhead trolley conveyors "Make Ceilings Pay Dividends" is the title of a new 28-page, illustrated Book No. 2330, published by Link-Belt Co., Chicago. Some 80 illustrations depict a great variety of actual installations and show the flexible adaptability of this type of conveyor.

Among the more unusual uses is a trolley conveyer with rods hanging from the trolleys to assist tired miners up a hillside when they come out of the mine at the end of a day's work.

Trolley conveyors that are electrified with bus bars along conveyor track, to provide current for continuous testing of such articles as electric fans and freezer boxes, are shown.

Another interesting feature is the great variety of specially made hangers that are used for suspending the product from the endless conveyor chain.

70-pound Paving Breaker by Independent Pneumatic

A new 70-pound pneumatic paving breaker is announced by the Independent Pneumatic Tool Co., of Aurora, Ill., manufacturers of Thor portable power tools. The new Thor "24" breaker is a companion machine to the widely used Thor 84-pound breaker, the Model "25," and answers a demand for a demolition tool just under the heavy-duty class. The new breaker has a 28-inch overall length; 1½ inch by 6-inch (1¾-inch by 6-inch optional) chuck sizes for collared steels; ¾-inch hose size; and ¾-inch hose inlet pipe thread.

Southern Steel Changes to O'Neal Steel Works

Southern Steel Works Co., Birmingham, Ala. steel fabricators, announce the name of the company has been changed to O'Neal Steel Works Co. By this move, the firm takes the name of its president, Kirkman O'Neal, who founded the company in 1922 and has directed its management since. There will be no change in management, ownership, policy, or service. At the same time, the name of the subsidiary Southern Steel Co., dealers in warehouse steel, is changed to O'Neal Steel Co. Offices of both companies are at 745 North 41st Street.

Wooldridge Scrapers, Bulldozers

Three new models of cable-controlled earth-moving equipment are currently in production at the Wooldridge Manufacturing Co. of Sunnyvale, Calif. These include the Models BB-85 and BB-120 four-wheel scrapers and the BHD-19 bulldozer.

Offering a wide, unobstructed front apron opening of 60 inches, the new scrapers feature rear-draft fulcrum leverage and pivot-tilt bowl to assure faster, more efficient loading and dumping of greater volume. The BB-85 has a capacity of 8.5 cu. yds. struck

Wooldridge BB-85 Scraper

and 11.0 cu. yds. heaped, while the BB-120 carries 12.0 cu. yds. struck and 14.2 cu. yds. heaped.

Other engineering advances include higher yoke clearance and greater ruggedness throughout. Cable is easily accessible, reeved in straight lines without reverse bends for increased life and easy replacement. Shorter wheelbase insures quick turning in crowded quarters. All sheaves are mounted away from dirt and load.

Optional on the BB-85 scraper are four 16.00 x 20 tires or six 14.00 x 20 tires. Approximate shipping weight is 16,000 lbs. The BB-120 may be equipped with four 16.00 x 24 or four 18.00 x 24 tires, and has an approximate shipping weight of 19,500 lbs.

The Wooldridge BHD-19 bulldozer for Allis-Chalmers' big HD-19 tractor is designed for rugged service in straight bulldozing operations. Heavy push arms, fabricated from formed channel, telescope for knock-down shipment. Cable to power control unit follows side of tractor frame from a sturdy engine-mounted assembly, providing operator with full visibility.

Contractor Combines Tractor Jobs for Efficiency

Hauling excavated dirt was a double-duty operation in the work pattern of Miller Excavating Co., Omaha, Nebr., recently, when the company arranged a profitable transfer of dirt from residential to industrial building sites.

The firm was simultaneously digging basements for a number of homes and constructing a raised fill for the foundation of a new implement store. Dirt had to be hauled away from the homesites and dirt was needed for the fill at the store location.

Miller's trucks moved the unwanted dirt from residential excavations to the other site. Thus, the haul and dump phases of a number of small jobs were made productive operations in a large one, a good case of economical earthmoving practice.

An International TD-9 Diesel crawler with one-yard Hough Bulldozer-Shovel dug the basements and loaded the trucks. Dirt was spread and compacted at the store site by another International, a TD-6 with Isaacson dozer and a sheepsfoot tamping roller.

(More on page 52)

TD-9 International with Hough Shovel excavating basement.

New Tunneling Folder

"Tunneling for Profit and Convenience" is the title of a 4-page folder recently published by Armco Drainage & Metal Products, Inc. Stress is placed on tunneling as an economical means of avoiding inconvenience to traffic and loss of business to merchants and others. Use of light-weight corrugated liner plates has simplified tunneling procedure.

Other advantages described are less excavation, fast assembly, greater safety above and below ground, no hindrance from bad weather, no destruction of expensive pavements or railway roadbeds, and freedom from settlement and future maintenance. Uses illustrated are for new sewers, relining of failing sewers and culverts, service tunnels for utility lines and pedestrian and livestock underpasses.

Copies may be obtained from Armco Drainage & Metal Products, Inc., General Offices, Middletown, Ohio, or any of the Division Offices.

Newly Revised Bulletin On Single-Acting Hammers

A new edition of the McKiernan-Terry single-acting pile hammer bulletin, provides added information of interest to engineers and contractors. Revised specifications and an added listing of component parts for all sizes of these single-acting pile hammers bring this bulletin up to date.

The text explains the special purposes and uses of the single-acting type of hammer. A concise tabulation lists exclusive advantages and superiorities claimed for McKiernan-Terry hammers, including underwater driving. Operating instructions have been revised and elaborated, and a formula is given for computing the bearing capacity of piles, with application to each of the five standard sizes. Copies can be obtained from McKiernan-Terry Corp., Dept. MR, 15 Park Row, New York 7, N. Y.

(More on page 54)

B-G Designs New Small Snow Loader

Barber-Greene B-G Snow Loader.

On the market for the first time this year, is a new small Snow Loader designed specifically for small cities, towns, and industrial plant storage and loading areas. Fast and efficient snow removal has over and over been proved to be a very economical means of meeting snow conditions. Manufactured by Barber-Greene Co., Aurora, Ill., producer of portable road building machinery and constant flow material handling equipment, the new snow loader is said to be the most economical machine that can be used to do the job.

A test proved the Model 522 snow loader will load a five-cubic yard truck in one minute, while the labor of four men is required for 20 minutes to do the same job. Figures at $4.75 per hour for truck and driver at the 5 cubic-yard per minute rate give a saving of $1.50 per 5 cubic-yard load in trucking costs alone, among other economies.

The Model 522 snow loader is one-man operated and self-feeding with a capacity up to 5 cubic-yards per minute for economical and practical snow removal. For a negligible cost, the new B-G snow loader can be converted to an all year round bucket loader for a variety of bulk loading applications.

Low clearance is a feature of the new snow loader, as is its quick portability and maneuverability.

Many Barber-Greene advantages have been incorporated into the Model 522, such as: Automatic overload release, which protects the machine. Floating boom, eliminating stress on boom or chassis. Individual steering and crowding clutches, controlling driving, crowding and braking. Spiral feeding device for capacity loading and breaking of lumps and ice.

Gardner-Denver Announces Automatic Line Oiler

A new line oiler that protects against running rock drills or other air actuated equipment without adequate lubrication has just been announced by Gardner-Denver Co., Quincy, Ill. Known as the LO12 automatic line Oiler, this new device shuts off the line air automatically when all the oil in the reservoir has been used. Thus there is no chance, the manufacturer states, for equipment to operate without proper lubrication.

In operation, the LO12 oiler delivers a metered flow of atomized oil from any position, either vertical or horizontal and all of the oil is consumed. The flow of oil is metered so that any pneumatic equipment using from 25 to 500 cubic feet of air per minute can be efficiently lubricated. The oil capacity of the LO12 Line Oiler is one pint, and it is not necessary to shut off the line air, or to stop the machine to which it is attached, in order to refill the reservoir.

The manufacturer reports that special construction of the LO12 makes it impossible for oil in the chamber to become emulsified and mixed with water. And the LO12 is said to be easy to service, for all parts may be withdrawn by hand, once the bushing on the inlet end has been removed.

Sales Manager Named

Charles L. Haslup has been appointed sales manager of field operations for the Reading-Pratt & Cady division of American Chain & Cable Co., Inc., with headquarters at Reading, Pa. Mr. Haslup brings to the position a long experience in sales supervision in the valve industry and a wide knowledge of distribution problems and distributor-manufacturer relations.

Equipment and Material Makers' News

Midget Pavement Breaker with New Features

The Rapid Pavement Breaker Corp., maker of the Mighty Midget pavement breaker announces a number of new features which are now being incorporated into the machines. It is claimed that the improvements permit greater ease of handling and that the new machines show important gains in yardage of concrete broken in a day's operation.

Controls are within easy reach of the operator's seat which is placed directly behind the machine, allowing the operator to see exactly where and how the hammer contacts the pavement at all times. A conventional steering wheel has been added which fits alongside the machine and is readily reached. Worm drive tends to hold the front wheel much steadier under difficult conditions. New higher wheels allow the machine to run through broken concrete and remain on a straight course, without sinking into the concrete.

Nordberg Diesel Bulletin

Bulletin 161 covering Nordberg diesel engines of the FS-9 and FS-13 series is announced by Nordberg Manufacturing Co., Milwaukee 7, Wisc. The new bulletin gives design and operating features of four-cycle diesel engines in 9-inch and 13-inch cylinder sizes providing a power range from 150 to 1,370 H.P., for a wide variety of services ranging from self-contained portable power units to permanent installations and auxiliary units for cargo and passenger ships and tankers. Specifications and dimensions of FS-9 and FS-13 engines are also given in this 12-page bulletin.

Tractors for India

Eight men stood watching as the last of eleven crates was loaded on the flat car. The U. S. Tractor Corp., Warren, Ohio had brought its production rate of tractors up to where it could spare a carload for shipment to India.

Warren Smith, president of U. S. Tractor Corp., felt like cheering. Since September he'd been driving himself and his staff at top speed to get into production after moving his entire operations from Peoria, Ill., to Warren, Ohio.

Things were looking up. "Production will hit 1,000 a month by January," said Mr. Smith. "Bulldozers, angle dozers and snow plows are starting to roll off the production line. It looks as if we're finally getting set to make a dent in our mountain of orders."

The little 3,425-pound Ustrac is an adaptation of the portable Clark airborn tractor that proved itself in wartime service. Only 92 inches long, 43-¼ inches wide, the little tractor maneuvers where larger tractors cannot go, stops and turns on a dime. It delivers 20.4 horsepower at the drawbar from a 4-cycle Continental gas engine.

Distributor Sells 55 Hubers to State of West Virginia

Within a period of six months this year, M. R. Hamill, Huber Manufacturing Co. distributor in Charleston, W. Va., completed two sales involving the acquisition of 55 Huber road maintainers by the West Virginia State Road Commission. The first sale, for 30 machines, was completed last spring, and in mid-September the state purchased 25 more.

West Virginia now has a Huber maintainer in operation in each of its 55 counties. The work of these machines includes the shaping

Huber Road Maintainer

of gravel and dirt secondary roads, and shoulder stabilization and other improvements on both primary and secondary roads.

Mr. Hamill is president of M. R. Hamill, Inc. of Charleston, a concern which he formed last August after several years' association with other equipment supply firms in the Charleston area.

In addition to Huber, which has its main offices and factory in Marion, Ohio, Mr. Hamill serves as distributor for the New Holland Manufacturing Co. of Mountville, Pa., builders of crushers, conveyors and screening equipment.

New LeTourneau Appointments

R. G. LeTourneau, Inc., Peoria, Ill., has appointed three district sales representatives in the southern territory. M. B. (Jack) Crowley, long experienced as a miner and engineer in coal and metal mines, will assist LeTourneau distributors in Virginia, West Virginia and the Carolinas. His headquarters will be at Raleigh, N. C. Fran W. Duke, formerly associated with LeTourneau dealers, has been named district representative for lower New York, upper New Jersey, Pennsylvania and Maryland. Jim Sevick is the new district representative for Oklahoma, Arkansas, Mississippi, Louisiana and western Tennessee. In those states he will give sales assistance to Kessler-Simon Machinery Co., Tri-State Equipment Co., Inc., and Watkins-Aldridge Equipment Co., Inc.

Transall "Unitized" Conveyors

Ball bearings, Neoprene mounts, sealed-in lubrication and self-cleaning rolls are features of the new "unitized" conveyor system being marketed by Transall, Inc., 109 N. Eleventh St., Birmingham 4, Ala.

The idlers have precision ball bearings in each roller and are lubricated with high quality, non-oxidizing non-emulsifying lubricant sealed in at the factory. This combination, say Transall officials, "gives the freest turning rolls, less wear and lower starting movement," thus eliminating "troubles with 'cold morning' starting."

Resiliency of the Neoprene mountings is aimed at eliminating shock on the bearings, reducing vibration and providing automatic self-alignment of the bearings. The frame of the idler has a clearing edge toward the roller, which removes any build-up of sticky materials greater than one-quarter inch.

Other features of the Transall system are: Minimum heights of head section, main chassis and tail section; spill shields for belt protection in place of deck plates; compact drive and power unit; self-cleaning tail pulley; short, maneuverable tail section, return idlers assembled in composite unit with troughing idlers.

The Transall conveyors are recommended for installation where frequent moving is required. Advantages of the system are emphasized for coal mining, although it can be used for all types of conveying operations.

Madden Made Vice President of Haiss Company

E. J. Seifert, president of Pettibone Mulliken Corp., Chicago, and subsidiary corporation, George Haiss Manufacturing Co., Inc., New York City, has announced appointment of W. E. Madden to vice president of the Haiss concern. Mr. Madden was appointed sales manager of the Haiss conveyor division last year and has been responsible for the outstanding development of Haiss conveyors for coal, aggregates and package handling.

Pettibone Mulliken Corp. divisions also manufacture Haiss bucket loaders, snow loaders, coal loaders and clamshell buckets; Universal, rock and aggregate, crushing, washing and screening plants; Beardsley and Piper, foundry equipment.

Pettibone Mulliken Corp., the parent company, manufactures railroad track products, shovels, clamshell buckets, highway speed-loaders and asphalt plants.

Oil Resistant Steam Hose

United States Rubber Co., Rockefeller Center, New York 20, has developed an oil resistant, high-pressure steam hose for pile drivers used in building wharfs, bridges, railroad trestles and other heavy construction work. The hose—called Matchless Pile Driver Hose—is especially designed to withstand the deteriorating effects of a combination of steam and hot oil which occurs when lubrication is applied to pile driving tools through steam pressure lines.

Braided wire construction gives the hose an unusually high bursting strength and acts as an armor to withstand heavy external abuse, both important safety features for operators handling pile driving equipment, the company said. The hose is constructed of a rubber core especially compounded for oil resistance, two or three plies of braided steel wire, depending upon the diameter of the hose, one ply of asbestos cord, and a heat resistant rubber cover.

Rotary Concrete Drill

A new and improved rotary concrete drill with exclusive design features has been announced by the Tilden Tool Manufacturing Co., 1995 N. Fair Oaks Ave., Pasadena 3, Calif.

With a unique core drill design and a side exhaust slot which permits core particles to escape, the Tilden drill penetrates concrete at the rate of two inches or more per minute in diameters of from ¼ to 2 inches. Specially treated sintered carbide cutters, located around the perimeter of the core where they operate at the most efficient speed, exert a quiet, pulverizing action which drills holes faster and leaves them straighter and cleaner. The Tilden drill bit is designed for use with ordinary electric drill motors. The cutters can be resharpened on any ordinary grinder used for tungsten carbide.

Above—Officials of U. S. Tractor Corp. and Federal Machine and Welder Co. watch shipment of tractors to India. Left to right are A. J. Stobbe, R. Peterson, A. R. Kelso, M. S. Clark, R. N. Lietzel, W. E. Ruck, W. Terry, J. R. Barefoot.

Road Builders to Meet Next Month

The American Road Builders Association will hold its forty-sixth annual meeting February 7 to 9, when a record-breaking attendance is expected for the numerous meetings and conferences, as well as to elect new officers for 1949.

Below—Col. E. R. Needles, of the engineering firm of Howard, Needles, Tammen and Bergendoff, is the nominee for president of the American Road Builders Association.

Col. Enoch R. Needles, of the consulting engineering firm of Howard, Needles, Tammen and Bergendoff, has been named to succeed J. T. Calloway, who has occupied the A.R.B.A. presidency for two years.

Four regional vice presidents have been nominated to succeed themselves. These are: Paul B. Reinhold, of Pittsburgh, Pa.; Charles W. Smith, of Pensacola, Fla.; W. A. Roberts, of Milwaukee, Wisc., and T. E. Stanton, of Sacramento, Calif.

Directors for terms ending in 1952 include Paul L. Andrews, executive secretary of the Georgia Highway Contractors Association; Robert B. Brooks, of St. Louis; Bernard L. Gray, of New York; Robert M. Reindollar, chairman of the Maryland State Roads Commission; Paul B. Rynning, of Medford, Ore.; Charles H. Sells, of Albany, N. Y., and A. R. Taylor, of Pittsburgh.

Jennings Randolph, who also has been named for the treasurer's position, will be nominated as president of the airport division.

New airport vice presidents are to include: Maj. Gen. C. R. Moore, of Baltimore; E. E. Bentley, of Jacksonville, Fla.; Robert Dewey, of Springfield, Ill.; Brig. Gen. T. B. Herndon, of Baton Rouge, La.; J. D. Ramsey, of Lincoln, Nebr.; O. J. Porter, of Sacramento, Calif.; and Frank W. Wiley, of Helena, Mont.

Nominated for directors of the airport division will be Gen. Donald Connolly, Baltimore; Louis Grashot, of Memphis; O. W. Merrell, Columbus, Ohio; Col. Roy D. Burdick, of Little Rock, Ark.; R. F. McKee, of Denver; W. A. Buggee, of San Francisco; Louis Wasmer, of Spokane, Wash.

Above—Nello L. Teer, Jr., vice president of Nello L. Teer Co., Durham, N. C., is the choice for president of the contractors division, American Road Builders Association.

Nello L. Teer, Jr., vice president of Nello L. Teer Co., of Durham, N. C., has been selected to head the contractors'

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Road Builders' to Meet

(Continued from page 55)

division. Vice president will be Joseph D. Bonness, of Milwaukee. Directors will include:

R. P. Bayard, of New York; John L. Flanagan, Jr., of Brooklyn, Md.; E. E. Hoebel, of Madison, Wisc.; P. F. Hollinger, Akron, Ohio; L. W. Lamb, Holland, Mich.; P. J. Walsh, Charleston, W. Va.; E. V. Williams, Norfolk, Va.; W. W. Young, Macon, Ga.

Directors-at-large will be: Wyatt B. Hodges, Fort Lauderdale, Fla.; Rudolph Kraemer, Plain, Wisc.; Austin E. Page, Meriden, Conn.; R. B. Potashnick, Cape Girardeau, Mo.; H. W. Riebe, Lansford, Pa.; E. D. Sloan, Greenville, S. C.; Herbert M. Warren, of Birmingham, Ala.

President of the county highway officials division will be Alan N. Buck, Decatur, Ill., succeeding Ben T. Collier, Clarksdale, Miss. For vice-presidents are: L. P. M. Gaylord, Lowville, N. Y.; A. W. Hinderman, Wapello, Iowa; Scott Candler, Decatur, Ga.; Chris P. Fauerso, The Dalles, Ore.

For county official directors are: Otto S. Hess, Grand Rapids, Mich.; Earl J. Mattis, St. Massena, N. Y.; Walter T. Jacobs, Columbus, Ohio; Paul B. Rynning, Medford, Ore.; A. N. Sollee, Jacksonville, Fla.; E. S. Ward, Willmar, Minn.; Wayne S. Talbott, Lapwai, Idaho.

H. H. Kranz, of Cincinnati, Ohio, is to succeed J. B. Wilson, of Louisville, as president of the municipal division; Vice presidents will be: H. F. Clemmer, Washington, D. C.; D. L. Erickson, Lincoln, Nebr.; W. E. Sheddan, Jacksonville, Fla.; W. N. Frickstad, Oakland, Calif.

For municipal division directors include: Robert A. Mitchell, Philadelphia, Pa.; Ralph B. Slippy, Waterloo, Iowa; W. W. Deberard, Chicago, Ill.; W. L. Chilcote, Baltimore, Md.

Below—Bryson Christhilf, of Stuart M. Christhilf & Co., has been elected president of the Baltimore chapter of Associated Equipment Distributors. Also chosen were C. D. Edwards, of McClung-Logan Equipment Co., vice president, and Ridgely A. Frey, of Free State Equipment Co., Inc., secretary.

Letters

December 6, 1948

Mr. Samuel A. Lauver
Manufacturers Record Pub. Co.
Baltimore (3), Maryland

Dear Sir:

Reference is made to your letter which deals with the continued rising cost of construction. You requested comments from us as to what steps we thought might be taken to improve the general situation.

We have given the matter considerable thought and it is my feeling that a major portion of the trouble can be summed up in the one word "Escalation." The dictionary defines escalation as applying to both "ascending" and "descending" but one would never realize that fact in its present day application.

Proposal forms prepared by Federal, State, and Municipal Agencies prohibit escalator clauses and bids containing such clauses are usually thrown out. The Contractor, therefore, has to bid "firm prices" which must hold good throughout the life of the project. In some cases this may be a matter of months; in others, two or three years.

Let us place ourselves for a moment in the position of the Contractor as he prepares his bid for a large bridge project. This project, let us say, requires a large tonnage of steel, a considerable quantity of cement, and electrical equipment, etc. Is it possible for him to obtain firm prices on any of these materials? Absolutely, no! On the other hand the quotations of the firms producing these materials, by innuendo, or otherwise, contain, in the wording of their escalator clauses, dire forebodings of rising prices to come. Our experience has been that, after securing orders containing such clauses, they usually take advantage of them and raise their prices before the order is completed.

After the Contractor reviews these quotations he is placed in such a hesitant frame of mind, is it any wonder that he turns to his estimate of the labor costs and decides that perhaps he, also, had better protect himself? If steel, cement, and the like should go up in price, he knows naturally that wages in those industries will also increase and in turn such increases will cause trouble in his own wage field.

In summary, it is my belief that when the day arrives that the producers of construction materials quote firm prices to the Contractors, then, and not before, you will see construction costs levelling off. How this can be accomplished is the problem at hand. Until then the unfortunate Contractor is left "holding the bag" and who can blame him for trying to protect himself as best he knows how.

Very truly yours,
S. E. LILES, JR.
Executive Vice President,
Tidewater Construction Co.

Little Rock Flood Control

(Continued from page 38)

Creek and about 21 feet over the remainder of the alignment. To be constructed in the vicinity of the Little Rock Packing plant, the floodwall will have an average height of 11 feet.

Two pumping stations will be constructed to provide a means of disposal of storm and sanitary sewage during periods of high-river stages. One will be located at the foot of Bond Street and the other on Harahan Ditch, near the foot of Gregg Street. Sanitary sewage will also be disposed of by the existing municipal pumping station, and the operation of this station will not be affected by the levee project.

Capacity of the Gregg Street pumping station will be supplemented by the storage that will be available in a borrow area approximately 3,000 feet long located immediately downstream from the pumping station. The flood-carrying capacity of Fourche Creek downstream from the diversion channel will be increased by clearing the channel and banks of the creek. Existing storm and sanitary sewers will be altered or extended as required to connect to the pumping stations.

Interior storm run-off will also be disposed of by means of three gravity drainage structures within the reach of levee extending along the Arkansas River, and by utilizing natural storage for ponding storm run-off and constructing four gravity drainage structures in the reach of levee extending along Fourche Creek.

These structures will be equipped with hand-operated slide gates placed in concrete gate wells located on the riverside of the levee. Each structure will also be provided with an automatic flap gate located on a concrete headwall at the outlet end. The gates will prevent the entrance of backwater during high river or creek stages.

In addition to the work performed by the Corps of Engineers, certain relocation work must be performed by local interests to meet their obligations under the provisions of Congressional legislation. This work includes moving power lines, telephone lines, pipe lines, and the railroad at the Little Rock Packing Co. The 24-inch "Big Inch" pipe line crosses the levee alignment at two points and the Fourche Creek diversion channel, and the 20-inch "Little Inch" pipe line also crosses the levee alignment at two places.

At all of these points line elevations were revised. The Pulaski Drainage District Number 2, which was established by order of the County Court of Pulaski County, has issued the necessary bonds to finance this part of the work. Officials directing the activities of the drainage district are: G. B. Oliver, Jr., Frank B. Gregg, Jr., and Fred J. Venner, members of the Board of Commissioners, and L. P. Biggs, the district's attorney.

The entire project is scheduled for completion by December 1, 1949. The rest of the city of Little Rock is above the flood plane of the Arkansas River and is therefore considered safe from any

known flood. Flood protection for the city of North Little Rock, across the river, from this estimated maximum flood of 800,000 cubic feet per minute has been previously provided by means of a floodwall and pumping plants which were finished in 1939. Last year, because of caving banks and erosion, the Little Rock engineer office constructed emergency bank-protection works to safeguard this floodwall at a cost of $194,512. Markham and Brown and L. L. Sanders, of Cape Girardeau, Mo., did the work.

Benbrook Dam Award

(Continued from page 30)

limestone. This material was line drilled to specified neat lines by use of wagon drills and loosened by dynamiting. Since the exposed material will soften and disintegrate when subjected to the elements, it was necessary to protect the limestone with an application of bituminous compound.

Blaw-Knox steel forms are used in the construction of the 4-foot thick, 13-foot diameter concrete discharge conduit, while economy panel forms are being employed to construct the intake tower. Absorptive form lining is being used and is held to the steel forms by use of a heavy grease or silicon sulphate.

Concrete aggregate is being shipped to a railroad siding where it is stock piled for subsequent batching and hauling by trucks to the site, 2½ miles distant. Southwestern Stone Co., is furnishing two-inch maximum sized crushed limestone from their quarry near Chico, Texas, while Jabco Gravel Co., supplies one-inch maximum sized gravel as well as the sand from their Brazos River quarry. Type II cement is being used with an air entraining agent added at the mixer. Use of this latter admixture increases the durability of the concrete and permits the placement of 1-inch slump concrete due to the increased workability of the mixture. The contractor uses two one-cubic yard paving mixers and places the concrete into the forms with a 1½ yard Lima crane which is generally operated at the edge of the cut. The trucks used to haul the batched material have three separate compartments effecting three charges of the mixer at one haul.

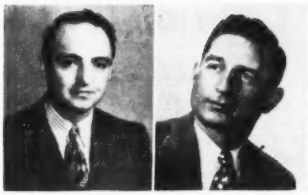
For the construction of the intake tower it is planned to place the upper portions of the 100 foot structure by use of a boom and crane operating on embankment fill material immediately downstream of the tower, supplemented by temporary fill in order to obtain required reach. Ottinger Brothers are contractors for the outlet works.

Completion of the embankment is well under way due to favorable weather conditions. The contractor has on the site a Euclid loader and 7 Euclid wagons supplemented by 4 La Plante-Choate rotorized scrapers for the placement of the 6,000,000 cubic yards of rolled earth fill. Construction of the spillway is scheduled to start next April. A 34E paving mixer will be used to mix the concrete with placement to be handled by use of a 2 cubic yard crane. List & Clark, Kansas City, are the contractors.

Gar Wood Appointments

Gar Wood Industries, Inc., Wayne, Mich., has appointed two new district managers, D. J. Byrd in the Southeast region embracing Alabama, Georgia, Florida and Eastern Tennessee and W. E. Toensing in the Virginia, North Carolina, South Carolina and District of Columbia area.

Mr. Byrd will be responsible for sale and distribution of Wayne division hoists, bodies, winches, cranes and load-packers; Findlay division ditchers, shovels, spreaders and finegraders, highway wideners and tractor equipment and St. Paul division hoists, bodies and truck patrols. In South Carolina he will be responsible for sale and distribution of Findlay division products only.



D. J. Byrd *W. E. Toensing*

Mr. Toensing will be responsible for sale and distribution of Gar Wood truck and tractor equipment, Buckeye ditchers, shovels, finegraders and spreaders and St. Paul truck equipment, as manufactured by the three Gar Wood Divisions.

Prior to his new appointment, Mr. Toensing was service manager for the St. Paul division and Mr. Byrd, salesman at the Washington branch of Gar Wood Industries, Inc.

Fort Gibson Dam Plant Described

(Continued from page 27)

with one band saw, two circle saws and a planing machine. The form lumber is oiled with a non-staining mineral oil in a dip vat located at the carpenter shop. All lumber that is too long to be dipped is stacked above the vat and sprayed. Drain boards, made of corrugated metal, catch all drippings from the spraying operation and return the oil to the vat. After the lumber is oiled, it is stacked in such a manner as to permit air circulation and is allowed to stand for a period of time to obtain maximum penetration of the oil.

Absorptive form lining is used on forms where the concrete surface will be exposed. In order to prevent wrinkling of the lining, which occurs when the weather is damp and the lining is exposed for a relatively long period before concrete placement, the 3 by 5-foot sheets of lining are stapled to the forms only a short time in advance of actual concrete placement. A neat appearing surface is being obtained through the use of form lining because the amount of entrapped air and water, usually present where unlined forming is used, is greatly reduced.

All panel forms are cleaned and oiled after stripping in preparation for further use.

Concrete

The cement used in concrete on this project is of Type II, moderate heat of hydration. The bulk cement is transported directly to the job site in railroad cars. A screw conveyor transfers cement from the cars to a 7,500-barrel storage silo and from the silo to a bin in the batching plant.

Fine and coarse aggregates are produced by M. O. Weaver, Inc., Des Moines, Iowa, from a quarry located approximately 4½ miles from the dam site. Sand, as specified by contract specifications, is manufactured from limestone by means of ball-mills, cone crushers, and air separators as shown on the appended aggregate plant flow chart. Specification requirements and average gradations are as follows:

Specification Requirements		Average Gradation Screened
Size	Per cent Passing	
#4	95 to 100%	100 %
8	80 to 90	81.3
16	50 to 80	52.0
30	30 to 60	33.5
50	12 to 30	15.7
100	3.5 to 10	6.6
200	No Spec.	3.4
FM	2.4 to 2.9	

Segregation of fine aggregate is overcome by the addition of 2 per cent moisture to the finished product by means of a water spray as the aggregate is loaded on trucks to be transported to the stockpiles.

Four sizes of coarse aggregate are manufactured at the crushing plant. Cedarapids crushing equipment is used along with Sturtevant air separators for the crushing operation. Aggregate sizes 3 to 6-inch, 1½ to 3-inch, ¾ to 1½-inch, and #4 to ¾-inch are being produced at present.

The appended table gives the material proportions as used in the four classes of concrete placed.

One of two types of air entraining agent is used in all classes of concrete. "Darex," manufactured by the Dewey and Almy Chemical Co., Cambridge, Mass., and "Protex," made by the Autolene Lubricants Co., Denver, Colo., have been used successfully. Increased workability and lower water demand are some of the beneficial results obtained by the use of air entraining admixtures.

Concrete mixing water is taken directly from the Grand River, heated, refrigerated or frozen as required to maintain a concrete temperature of 56 to 60 degrees Fahrenheit at time of placement. In addition to heating the concrete mixing water, it is necessary to heat the aggregate when spells of prolonged cold weather occur. This is done by passing steam through pipe coils embedded in the aggregate bins on the batch plant.

During the summer months when prevailing ambient temperatures are 90°F. and above, the mixing water contains

over 50 per cent ice. The ice is produced by three Vogt tube ice machines, 60-ton capacity each, manufactured in Louisville, Ky. Ice, cut in about ⅜-inch rings, 2 inches in diameter, is fed into a weighing hopper in the batching plant by a screw conveyor. The ice hopper is equipped with a drain that eliminates the water caused by melting ice and insures that the amount of ice added to a batch of concrete is dry weight.

Concrete Batch Plant

The concrete batch plant is approximately 80 feet in height with the aggregate storage bin at the top of the tower. The aggregate conveyor belt, which is inclined at about 17 degrees from horizontal, empties into the storage bins at the 80-foot height. Batching hoppers, where the various materials are weighed, are located on the next floor 26 feet below the top of the storage bins. Also located on this floor is the batch plant instrument control panel. Four Koehring tilting type mixers, capacity of 2 cubic yards each, are located on a floor level 16 feet below the control floor. The mixers are arranged on the perimeter of a circle in order to permit charging of the mixers through one central chute. A cone-shaped hopper receives the concrete dumped from the mixers and flat bed Euclid trucks, carrying 2 Blaw-Knox concrete buckets, 2 or 4-cubic-yard capacity each, transport concrete from the hopper to the forms. The batching plant was designed by C. S. Johnson Co., Champaign, Ill.

Steam Gantry Cranes Used

By the use of two steam gantry cranes mounted on rails located at the downstream limit of the gravity monoliths and supplemented by crawler-type cranes, the concrete buckets are hoisted from the trucks to the forms. The concrete placement crew, present at the forms, using two-man vibrators consolidates the concrete as it is dumped from the buckets. Mass concrete pours are made with a slump average of approximately 2 inches and vibration is held to a minimum consistent with proper consolidation of the concrete mass.

In all monoliths based on gravity type design, a standard five foot lift is used in raising the structure, with the exception of the first four pours. Each monolith foundation area is covered by a minimum of four 2½ foot lifts and then the standard lift is used in constructing the remainder of the monolith. It is required by the contract specifications that 120 hours time elapse between placement of successive 5 foot lifts in any one monolith.

14-Day Concrete Cure

The concrete is water cured for a period of 14 days. All exposed surfaces are kept moist by a sprinkler system that is installed on or near the concrete within 2 to 5 hours after completion of pouring operations. During the curing period, concrete surfaces are never allowed to become dry after placement. The contractor has a curing and laitance cutting crew assigned to a maximum of 2 monoliths per man to insure that curing requirements are properly carried out.

In cases where water curing is not practicable and no additional concrete is to be bonded to the surface, a surface membrane type curing compound is used. The compound is sprayed on the surface immediately following the final finishing operation. Concrete surfaces to which the curing membrane has been applied are protected from all foot and vehicular traffic for the specified curing period.

In the winter when the ambient temperature drops below freezing, the concrete is covered with canvas stretched over wooden frames approximately 20 by 40 feet. These panels are supported above the concrete a convenient distance, depending upon the location, to form an air space. Then tubes from 100,000 BTU gasoline heaters are inserted under the canvas paneling through which sufficient heat is supplied to maintain an air temperature next to the concrete of from 50 to 70 degrees F. for the first five days and a temperature above freezing for the remainder of the specified curing time.

Tainter Gates

The spillway discharge will be controlled by thirty tainter gates 40 feet long

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Fort Gibson Dam Plant Described

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and 35 feet high. These gates are located on the spillway weir between the piers supporting the bridge. With all gates in a raised position, the maximum discharge will be 919,000 c.f.s. The gates are being fabricated by Brown Engineering Corp., Houston, Texas. They will be constructed, principally, of semi-corrosion resisting steel and will be of arc welded construction.

The gate operating machinery is being furnished by Lakeside Bridge and Steel Co., Milwaukee, Wisc. Each gate is equipped with a 7.5 HP, 440 volt, 3 phase hoisting motor which is individually controlled. The electrical and mechanical control features are such that the gates are opened in increments of 9 inches until the half-open point is reached. From the position of half-open the gates are raised in one continuous operation. The gate closing operation is also continuous. At any position along the traverse the gates may be stopped and held during either the opening or closing operation. The tainter gate operating machinery is located on the bridge piers immediately below the roadway.

Penstock Gates

Two caterpillar type gates are provided for closing the penstock supplying water for each generating unit in the powerhouse. The effective opening to be closed is 14 feet 6 inches by 20 feet 2¼ inches. Under the present contract, gates will be installed in eight of the twelve conduits and destructible concrete bulkheads will be placed in the remaining four.

The penstock gates and operating machinery are being fabricated by Consolidated Western Steel Corp., Los Angeles, Calif. Each 14 foot 6 inch by 20 foot 2¼ inch vertical lift gate will be operated by individual electric-powered hoists. The gates are self-closing and are operated by cable drum type hoists. The cable is reeled on the drum by power provided through a chain of reduction gears and a ring gear fitted to the drum. A mechanical shoe-type brake holds the machinery when power is off, and releases it when power is provided. This brake can also be released mechanically for manual operation of the hoist. Limit switches stop the gate at closed, full conduit opening, dogging, and maximum raised positions. The gate hoisting machinery is designed to lift the gate at the rate of 2½ feet per minute. All of the eight gates are now on the project site but as yet no installations have been made.

Project Management

Fort Gibson Dam is being built under the direction of Col. C. H. Chorpening, district engineer, Tulsa District, Corps of Engineers. Frank M. Newell is resident engineer on the project and Frank F. Wingo is office engineer. O. S. McCormick is project manager and H. M. Haagenson is chief engineer for Johnson-Winston-Kiewit, joint contractors. The co-adventure firm is a combination of Al Johnson Construction Co., Minneapolis, Minn., the sponsoring company, Winston Brothers Co., Minneapolis, and Peter Kiewit Sons Co., Omaha, Nebr. It is estimated that the dam will be completed during the summer of 1950.

Fiske-Carter Incorporated as South Carolina Firm

Fiske-Carter Construction Co. of South Carolina has been incorporated with a capitalization of $400,000. As in the former company of the same name, which the new corporation supplants, W. L. G. MacKenzie is president; William T. Adams, secretary; A. M. Lander, Jr., vice president and assistant treasurer; M. B. Phipps, vice president and assistant secretary, and S. L. Rhodes, vice president. The corporation maintains offices in Greenville, S. C. in the Masonic Temple, at Spartanburg, S. C. on Dunbar Street and at Worcester, Mass. The southern offices specialize in textile and water works projects; the northeastern office, in machine shops and wire works. Fiske-Carter Construction Co. was first formed at Worcester in 1908.

PUBLIC BUILDING

(Continued from page 50)

ton, D. C., $219,000 for MacArthur School.

BLACKSBURG—Virginia Polytechnic Institute let contract to Doyle and Russell, Richmond, $1,145,320 for dormitories A, A-1 and B.

RUSSELL COUNTY—Board of Education let contract to Armstrong Construction Co., Kingsport, Tenn., $736,700 for Castlewood, High School.

ROANOKE — Veterans Administration, Richmond, let contract to Virginia Engineering Co., Newport News, at $508,000 for addition and alterations to dining hall and kitchen for Building No. 4 for Veterans Administration Hospital.

STAUNTON—Board of Trustees let contract to Irons & Reynolds, Inc., Washington, D. C., at $2,054,000 for King's Daughters' Hospital.

WEST VIRGINIA

CHARLESTON—West Virginia Universtiy has funds released by Board of Public Works, for completion of new classroom building and new biology building; Baker and Combs, Inc., Morgantown, awarded contract at $1,523,400 for biology building.

Carolinas Contractors Hold Big Meeting

(Continued from page 29)

Van D. Lott, the associate membership meeting.

Principal addresses at the highway and public works meeting were made by C. R. McMillan, chief highway commissioner of South Carolina, and W. Vance Baise, state highway engineer of North Carolina. Archie N. Carter, manager of the A. G. C. highway division discussed the national picture. Ralph C. Barker, of the Budd-Piper Roofing Co., Durham, N. C., talked at the associate membership meeting.

Industry's Responsibility

Commissioner McMillan spoke on the public responsibility of the highway construction industry, stressing his view that the democratic victory is an unmistakable trend in the United States toward more governmental regulation and control of private industry where industry itself does not impose its own restraints and regulations from within and give greater emphasis to the public interest.

Stating that its ethics are higher today than ever before, Mr. McMillan said highway construction today is big business. His department alone has let construction contracts totaling $58,413,756 since the war, this work paid for by the more than 450,000 automobile users of South Carolina. "There is simply no way to avoid the very important fact that both the highway department and the construction industry are jointly accountable to the public for every act and phase of the construction program," with each depending upon the full cooperation of the other.

Both the highway departments and the contractors must work together to bring down costs through improvement methods and practices and the contractors are entitled to a fair margin of profit on the job, but they do not have any vested interest in any proportion of the highway dollar by reason of their businesses, he observed, continuing: "The outlook for future construction in South Carolina is good, if we do a good job. The demand for new construction is greater now than ever before and, as long as the motor vehicle serves as our chief mode of travel, demands for more construction are going to continue to exceed accomplishments."

Baise Reviewed Progress

Mr. Baise reviewed highway progress in North Carolina since hostilities ceased, placing the value of construction, stabilization and maintenance in that period at $191,528,000. Of the total, 584 projects for new work cost $78,525,000 and 158 projects involving resurfacing cost $7,008,000. State forces did 1,810 miles of new work at a cost of $18,104,000, placed 5,937 miles of resurfacing at $7,368,000 and 14,870 miles of stabilization at an estimated cost of $14,114,000. Maintenance involved an expenditure of $44,815,000.

The last two years have seen the largest construction program in the history of the North Carolina State Highway and Public Works Commission. Construction in 1947 cost $43,000,000; in 1948, $45,000,000. Approximately 5,000 miles of additional roads have been paved with bituminous or higher type surface. Greatest emphasis has been placed on developing and further improving the secondary systems "to get people out of the mud." Mr. Baise feels that this policy should be carried further until all of the rural areas are accessible to a good road, either hard-surfaced or stabilized to make it serviceable throughout the year.

Mr. Baise revealed some interesting statistics on recent North Carolina traffic surveys. More than 70 per cent of rural traffic is on the rural state system and only about 30 per cent is on the rural secondary system, thus making not more than 20 per cent on the rural secondary system, when judged by the total traffic in the state. A total of 9,046 miles of unpaved highways were carrying more than 100 vehicles daily and 37,497 miles of rural highways were carrying less than

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Carolinas Contractors Hold Big Meeting

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100 vehicles a day.

The rural county system in 1947 earned approximately $11,000,000, based on the vehicle usage. Expenditures on the system in the same period amounted to $35,000,000 and in the last fiscal year, slightly less. "The difference," Mr. Baise pointed out, "obviously represents earnings of the primary highway system used to subsidize the secondary county system." Such a subsidy is necessary, he stated, on some state highways through sparsely settled areas, as well as on county roads in order to have a well integrated state and county system.

Most of North Carolina's primary roads were paved under the bond issue of the 1920's and are from 20 to 25 years old. There are about 800 miles of 16-foot pavement and 3,600 miles of 18-foot pavement that should be widened to take care of present day traffic and a large amount that should be relocated and rebuilt. The secondary system, while in need of additional paving and stabilization, is one of the best in the South or in any rural state in the Nation.

North Carolina has a total of 11,362 miles on the state system and about 52,000 miles on the secondary system, making a total of 63,362 miles, or a length that will stretch two and one-half times around the earth. This is understood to be the largest system of roads being maintained by any state of the Nation and probably the largest being maintained by any organization in the world. Of the entirety, more than 16,500 miles have been paved or are under contract for paving.

North Carolina highway authorities have spent $320,000,000 on construction of new roads since 1921 and many other millions for maintenance. "I am sure all realize," Mr. Baise concluded, "the need for protecting this great investment and expanding it so as to take care of the heavy increase in highway traffic. What we need in North Carolina is a balanced highway system" and to obtain it will require development and expansion of the secondary system and also development and improvement of the primary system.

Highway Needs Cited

Mr. Carter, who climaxed the program of the highway division meeting, cited the need for $22,000,000,000 worth of new highway construction. In a short but invigorating talk, he pictured the present construction situation and described the part the airport and rural electrification programs will play in the immediate future. The American people, he stated, are sold on solving the stream pollution problem. Soil conservation is also an up and coming field for the construction industry with many contractors already participating in the work.

At the building division meeting, with F. L. Shackelford, presiding, Mr. Pease declared that one of the most serious problems today is that of costs. Where present prices will stabilize, he declined to predict but using mill construction costs as an example, he cited the $1.25 per square foot in 1915, the $2.50 per square foot from 1920 to 1939 and the $4.50 to $5.00 cost in 1945, and stated that after each war the price doubled and then leveled off. He expects the current high prices to follow the same pattern.

Material Flow to Improve

No reduction in labor rates was forecast. In fact, increases are seen, with declines in the prices of some materials as they drop from the critical list. No improvement was forecast by Mr. Pease in the steel situation. As the flow of materials becomes more plentiful, he said, and the contractor can schedule his labor and materials to avoid costly job shutdowns, then can a substantial saving be made with its consequent reduction in costs. However, the change will not occur before April.

Asserting that the country is "not going into a tailspin," the Charlotte engineer emphasized the necessity for the public to recognize a new level of construction prices before there can be a great increase in commercial and industrial building. Further, industry cannot afford to pay prices for floor space on which it cannot pay dividends. Emergency building and housing are catching up with demand. Except for government aid projects and public works for which bonds have been issued, there are few new projects, he said.

Accomplishments Reviewed

Mr. Snow reviewed congressional legislation affecting the building industry, the $400,000,000 veterans' hospital construction, the federal aid hospital program, and the federal mortgage insurance program, the labor situation and basing point decision and listed accomplishments of the national A. G. C. during the past year. The A. G. C.-A. I. A. committee, settlement of jurisdictional disputes, apprentice training, effect of the draft law, bidding procedure, were among these. For 1949 he predicted anti-inflation measures, modifications in the Taft-Hartley law, slightly increased dollar volume of construction, no appreciable increase in construction costs, and perhaps an easing in the skilled labor shortage.

The address scheduled for delivery to the second general session of the convention by Dexter C. Martin, director of

the South Carolina Aeronautics Commission was read by Dabney R. Yarborough, chief of planning for that agency. He disclosed that if appropriations are made for the next seven years as contemplated by the Federal Airport Act, the Carolinas will get $12,228,074 for airport construction, which when matched by local funds will make more than $25,000,000 available.

Airport Program Slow

Lack of momentum in the airport construction program was attributed to no definite financing policy on the part of the sponsors. Federal money is available, but is not being used, the South Carolina official said. In his state alone, about $800,000 in federal funds is still unclaimed and other states have similar situations. Some cities do not have the money and others have more pressing projects.

Cities of South Carolina in the past have furnished less than one per cent of the total funds expended by airports and those who would carry out such projects are now faced with putting up fifty per cent of the funds unless some other arrangement is made. The state legislature has been asked to authorize the State Aeronautics Commission to match federal funds. Under the proposal the commission would issue bonds totaling $1,256,000 for airport construction, with the aviation gasoline tax pledge to amortize the loan. This would give the South State $2,500,000 for airport construction.

State Action Urged

Answering the question "Is the construction of airports the responsibility of the cities," the speaker pointed out that the airplane is a vehicle that never enters the city limits. It is a means of transportation between cities, not within them. Cities in the past have had to take the initiative because the states have not assumed their rightful obligation, he declared, urging every possible step to foster and develop airport facilities.

Executive Secretary Robert Patton read the report for Henry O. Strohecker, Jr., on the progress made on the army affiliation program. William Muirhead, past president of both the Carolinas Branch and the National A. G. C., presented the report of the educational program, which he termed "an investment in your own industry." Apprentice training was described in the report by Hal S. Crain, who said his committee's work was directed at the boys who can't go to college. More than $58,500 has been raised for the two programs—$20,000 for apprentice training and $38,500 for the engineering educational endowment fund.

Separate Bids Opposed

Mr. Shackelford's report of the building division brought out that the A. G. C. is opposed to bidding the mechanical items separate from the general contract proposal. A comparison of 29 jobs, it was stated, showed only five that favored the separate award procedure. A resolution was passed urging the members to start their work-week on Monday and pay off

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Carolinas Contractors Hold Big Meeting

(Continued from page 63)

at the end of the week. A second resolution, also unanimously adopted, requested the State of North Carolina to discontinue the use of prison labor and force account and return to the contract system.

The highway division was the largest and best attended since it was started, it was reported by William F. Bowe, its chairman. The four points he emphasized were wage stabilization and premium pay, steps to obtain firm prices on cement, steel and other materials, the availability of equipment and the possibility of securing the cooperation of the Associated Equipment Distributors, and cooperation between engineers and contractors.

Subcontractors Lauded

Mr. Barker's address to the associate membership division recognized the efforts of the sub-contractors and material firms, and the difficulties caused by shortages. Other points in his talk were substitutions, the "cement case" and its perplexities, at the same time urging closer cooperation between contractors.

He sees little hope that prices will drop under present conditions with the complications of shortages of materials, high wages and "none too efficient operation by the trades people." Present per-bed costs of $8,000 to $10,000 were contrasted against the previous hospital construction costs of $3,000 per bed, with government institutions ranging from $18,000 to $25,000 per bed.

Associate Members' Report

The report of the associate membership division was delivered by Lloyd D. Mumaw, of Easterby & Mumaw, of Charlotte, in the absence of Chairman Lott. Apprentice training and the low efficiency of the G. I. training program, the success of the A. G. C. program, overtime on overtime were among the subjects covered. Marret Wheeler, of Charlotte, was elected chairman of the advisory committee; Tom Boyle, of Columbia, vice chairman and Collier Cobb, Jr., of Chapel Hill, a new member. The terms of Messrs. Craven and Cagle run for another year.

Banquet Climaxes Convention

Colorful climax of the convention was the banquet held Saturday evening, with George A. Bowie, author and lecturer, the guest speaker. Other hours between and after business meetings were occupied by the traditional bingo game held Friday evening after the buffet supper attended by the conventioneers, a golf tournament, ladies' luncheon and tour of the spacious hotel where the convention was held, as well as a showing of "Highway U.S.A.," the color film of America's scenic beauty developed by Barber-Greene Co.

The list of those present, as issued by the Carolinas Branch included the following:

Mr. & Mrs. W. Elliott Abbit
Mr. & Mrs. R. C. Aiken
E. G. Alford
Mr. & Mrs. T. C. Anderson
Mr. & Mrs. Charles W. Angle
J. B. Archer
Mr. & Mrs. Reuben B. Arthur

Mr. & Mrs. W. Vance Baise
Mrs. Margaret Ballenger
C. P. Ballenger
Mr. & Mrs. T. C. Ballou
Mr. & Mrs. Ralph C. Barker
B. E. Barksdale
Howard Batty
Mr. & Mrs. J. H. Bell
George Bethune
Mr. & Mrs. D. J. Bethurum
Mr. & Mrs. Donald E. Bither
F. J. Blythe
Mr. & Mrs. F. J. Blythe, Jr.
Mr. & Mrs. W. C. Boren, III
Mr. & Mrs. Robert F. Bowe
Mr. & Mrs. William F. Bowe
Mr. & Mrs. Homer W. Bowers
George A. Bowie
Mr. & Mrs. Edwin B. Boyle
Mr. & Mrs. Thomas B. Boyle
Mr. & Mrs. Richard A. Bradshaw
Mr. & Mrs. Spencer S. Brewer
Mr. & Mrs. E. H. Brown
Mr. & Mrs. W. F. Brown, Jr.
Glenn C. Browning
Mr. & Mrs. R. F. Brownlee
Miss Lillian Brunson
Mr. & Mrs. Raymond A. Bryan
Mr. & Mrs. T. A. Burton

Wilkins Cagle
W. C. Calton
Mr. & Mrs. A. L. Carr
Ray L. Cargill
Archie N. Carter
Mr. & Mrs. H. M. Caskey
Mr. & Mrs. T. W. Cecil
Mr. & Mrs. J. Keith Chilton
Mr. & Mrs. J. L. Christian
P. D. Christian, Jr.

(Continued on page 66)

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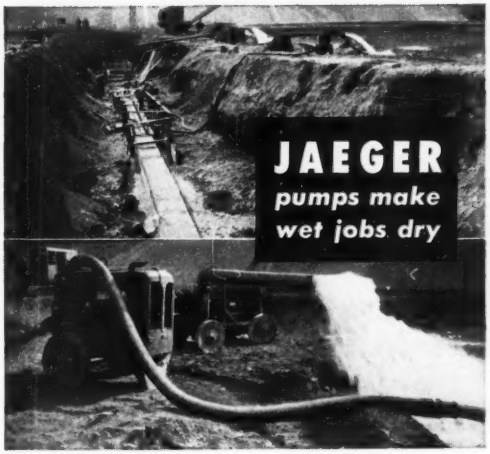

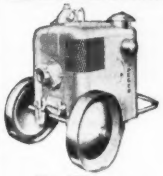

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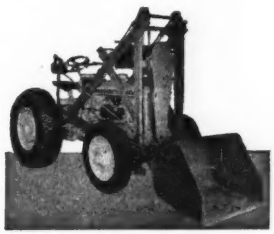

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Carolinas Contractors Hold Big Meeting

(Continued from page 64)

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Miss Jean Coble
Mr. & Mrs. Leon G. Coble
Robert W. Coleman
Mr. & Mrs. Frank R. Conner
Mr. & Mrs. E. L. Cook
Mr. & Mrs. G. F. Cooper, Jr.
William N. Cox
Mr. & Mrs. Hal S. Crain
Ashbury E. Craven
Dean H. Crawford, Jr.
Mr. & Mrs. John Crosland
Mr. & Mrs. Wm. P. Crosland

Mr. & Mrs. Starr Davis
Guy L. Dawson
W. D. Dean
Mr. & Mrs. Oscar Dearing
Mr. & Mrs. L. A. DeBardelaben
Mr. & Mrs. E. M. Denbo
Mr. & Mrs. I. Denemark
Mr. & Mrs. C. R. Dial
Mr. & Mrs. L. W. Dickerson
Mr. & Mrs. N. K. Dickerson, Jr.
Mr. & Mrs. James F. Dixon
Mr. & Mrs. Frank Dowd
Mr. & Mrs. Sam C. Dreyfus

Mr. & Mrs. F. C. Easterby
Mr. & Mrs. S. D. Easterby

Francis Fearon
O. B. Fisher
H. E. Foreman
Selwyn L. Flournoy
Mr. & Mrs. A. J. Fox

Joe A. Garrett
Mr. & Mrs. C. V. Garth
W. D. Garvin
Mr. & Mrs. Craig Gaskell
Mr. & Mrs. Roy E. Geise
Mr. & Mrs. Clyde D. Goforth, Jr.
Mr. & Mrs. Roy L. Goode
Mr. & Mrs. Sim W. Grady

Mr. & Mrs. C. T. Hagan
Mr. & Mrs. James F. Hagood
R. F. Handley
Ira H. Hardin
Mr. & Mrs. Frank M. Harris
Mr. & Mrs. James J. Harris
Mr. & Mrs. Morgan C. Harris
Mr. & Mrs. M. S. Hayworth
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West Virginia Contractors Attend Greenbrier Meet

A delegation of West Virginia contractors attended the Carolinas Branch convention held at White Sulphur Springs. Among them were Ray E. Ritchie, of Boso & Ritchie, of Ravenswood; A. J. Fox, of Thompson & Street Co., Clarksburg; O. B. Fisher, of O. B. Fisher & Sons, Logan; Frank W. Robertson, of Robertson-Henry Co., Huntington; Charles J. Kuhn, and Miss Virginia Kuhn, both of Kuhn Construction Co., Charleston; Homer W. Bowers and J. Keith Chilton, of Bowers & Chilton, South Charleston; Col. R. L. Mundy, South Charleston; Evan L. Harris, Jr., of E. L. Harris & Son, Charleston; W. Elliott Abbitt, of W. A. Abbitt Co., Charleston, and Eugene H. Brown, executive secretary of the Associated General Contractors of West Virginia.

Mr. Ritchie, who is vice president of the West Virginia branch, welcomed the Carolinas branch to his state. Guests from West Virginia were C. E. Silling and L. G. Tucker, of the Charleston architectural firm bearing their name; M. L. O'Neale, chief engineer, and George W. McAlpin, chief construction engineer of the West Virginia State Road Commission.

PRIVATE BUILDING

(Assembly, Commercial, Residential, Office)

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948
Ala.	$2,644,000	$550,000	$18,361,000
Ark.	64,000	830,000	11,068,000
D. C.	2,000,000	5,850,000	11,566,000
Fla.	8,446,000	4,591,000	171,691,000
Ga.	6,157,000	15,420,000	31,221,000
Ky.	100,000	1,300,000	964,000
La.	8,903,000	2,930,000	43,052,000
Md.	1,340,000	1,064,000	69,693,000
Miss.	641,000	2,150,000	8,389,000
Mo.	1,149,000	745,000	35,389,000
N. C.	773,000	2,130,000	29,129,000
Okla.	3,534,000	3,390,000	20,315,000
S. C.	1,868,000	150,000	18,940,000
Tenn.	5,518,000	1,804,000	44,510,000
Tex.	13,063,000	27,740,000	183,996,000
Va.	5,808,000	1,420,000	25,380,000
W. Va.	.....	555,000	9,333,000
TOTAL	$62,000,000	$72,419,000	$733,200,000

ROADS, STREETS, BRIDGES

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948
Ala.	$.....	$910,000	$12,852,000
Ark.	.....	.....	1,431,000
D. C.	.....	.....	4,188,000
Fla.	3,802,000	180,000	22,106,000
Ga.	964,000	850,000	34,469,000
Ky.	174,000	.....	20,709,000
La.	2,470,000	2,185,000	42,816,000
Md.	2,275,000	5,315,000	41,507,000
Miss.	3,176,000	280,000	15,411,000
Mo.	162,000	4,940,000	27,350,000
N. C.	2,565,000	1,260,000	28,999,000
Okla.	3,296,000	2,460,000	23,387,000
S. C.	2,963,000	2,100,000	24,821,000
Tenn.	4,574,000	1,460,000	16,753,000
Tex.	7,600,000	2,590,000	132,753,000
Va.	51,000	200,000	8,924,000
W. Va.	1,753,000	.....	10,617,000
TOTAL	$35,834,000	$24,730,000	$469,193,000

PUBLIC ENGINEERING

(Dams, Drainage, Waterworks, Sewers, Etc.)

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948
Ala.	$468,000	$5,825,000	$12,152,000
Ark.	405,000	5,525,000	22,469,000
D. C.	313,000	360,000	3,849,000
Fla.	2,331,000	6,540,000	28,757,000
Ga.	356,000	62,070,000	11,807,000
Ky.	71,000	3,730,000	10,262,000
La.	2,467,000	4,595,000	41,779,000
Md.	1,071,000	3,961,000	25,228,000
Miss.	544,000	2,595,000	10,808,000
Mo.	2,468,000	4,375,000	13,586,000
N. C.	508,000	3,085,000	16,878,000
Okla.	1,584,000	3,076,000	23,562,000
S. C.	2,122,000	2,522,000	13,583,000
Tenn.	3,867,000	7,615,000	17,759,000
Tex.	9,249,000	29,185,000	118,176,000
Va.	270,000	4,080,000	31,249,000
W. Va.	.....	20,000,000	8,421,000
TOTAL	$28,094,000	$169,919,000	$410,325,000

South's Contract Value at Peace High

(Continued from page 11)

not only for the current year but for a number of years to come, as there still exists a tremendous demand for new construction.

Large volumes of resource development construction such as flood control, reclamation and water power are expected, as are increased programs in the fields of hospital and school construction, as well as airport work. The latter is being stimulated by federal aid, although in some areas lack of local funds has slowed the program considerably.

Highway construction supervised by state highway departments last year, including federal aid work, probably amounted to one and one-quarter billion dollars last year. Thomas H. MacDonald, commissioner of public roads, estimated that this year's construction expenditures will be close to one billion, four-hundred-million dollars.

The supply of building materials and labor is predicted to be sufficient to carry out the eighteen billion dollar construction program for this year, as well as for seven billion dollars worth of repair and maintenance activity. James M. Ashley, president of the Producers' Council says that aside from the supply of iron and steel, no serious shortages of materials are now seen.

Iron and steel products should be as plentiful as during 1948 and millwork, which last year was troublesome, should be more readily available. Sash and door mills are catching up with back orders. Cement may remain tight, due both to expanded volume of public works and to distribution problems created by the basing point decisions. Other materials will be produced in ample quantities.

The tight labor supply may ease this year. Continuation of the large volume of construction will prevent any surplus, with the inroads of the military draft acting as an added factor against any excess. The slight reduction in some fields of construction may have the effect of retiring some of the older workers and the weeding out of some of the less competent younger ones, according to some authorities.

Total value of new construction in 1949 as forecast jointly by the Departments of Commerce and Labor will approximate $18,750,000,000, or an increase of five per cent over the government estimate for last year. The physical volume, however, will remain at about the same level as in 1948. New private construction is seen at $13,750,000,000; new public construction at $5,000,000,000, the latter to be a twenty-four per cent increase.

Figures for 1949 residential construction show the number of starts at about 875,000 permanent dwelling units. Practically all of the total will be privately-

INDUSTRIAL

(Including Private Utilities)

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948
Ala.	$937,000	$63,085,000	$61,423,000
Ark.	1,139,000	1,350,000	18,750,000
D. C.	.....	.....	.....
Fla.	481,000	430,000	13,168,000
Ga.	307,000	814,000	15,475,000
Ky.	5,200,000	1,020,000	21,008,000
La.	8,740,000	870,000	54,453,000
Md.	5,961,000	1,125,000	27,637,000
Miss.	5,252,000	3,325,000	17,551,000
Mo.	16,000,000	1,200,000	55,661,000
N. C.	486,000	116,517,000	37,704,000
Okla.	15,330,000	850,000	28,162,000
S. C.	18,514,000	309,000	35,303,000
Tenn.	6,016,000	11,211,000	29,181,000
Tex.	45,209,000	160,626,000	149,354,000
Va.	422,000	5,338,000	18,664,000
W. Va.	5,009,000	1,105,000	24,477,000
TOTAL	$134,985,000	$369,175,000	$587,971,000

PUBLIC BUILDING

(City, County, State, Federal; Schools)

	December, 1948 Contracts Awarded	December, 1948 Contracts to be Awarded	Contracts Awarded Twelve Months 1948
Ala.	$533,000	$5,787,000	$25,018,000
Ark.	927,000	1,500,000	25,062,000
D. C.	5,621,000	395,000	26,927,000
Fla.	4,412,000	6,434,000	35,665,000
Ga.	1,367,000	1,875,000	30,322,000
Ky.	384,000	2,228,000	11,623,000
La.	3,508,000	2,555,000	52,293,000
Md.	1,467,000	57,110,000	39,591,000
Miss.	1,371,000	19,071,000	28,815,000
Mo.	1,964,000	3,110,000	22,910,000
N. C.	2,824,000	3,880,000	34,193,000
Okla.	3,686,000	8,117,000	26,994,000
S. C.	770,000	736,000	14,077,000
Tenn.	1,845,000	44,000,000	42,140,000
Tex.	27,827,000	41,657,000	166,374,000
Va.	4,605,000	5,363,000	28,050,000
W. Va.	1,593,000	784,000	19,286,000
TOTAL	$64,724,000	$204,582,000	$629,349,000

owned, with the number of publicly financed units placed at only 30,000, mostly in state and municipal programs and in military establishments. The 1948 volume is about 925,000 units, of which 15,000 are publicly owned.

New construction put in place in 1948, according to the Departments of Commerce and Labor, was valued at $17,-693,000,000, of which $13,631,000,000 was for private work, and $4,035,000,000 for public construction. The peak was August's $1,799,000,000; the low point, the $1,009,000,000 for February.

Bethlehem Steel Installing Floating Dock at Beaumont

Bethlehem Steel Co. will construct a 600-foot pier at its Beaumont, Texas, yard where preparations are being made to install the four sections of a recently acquired floating dry dock which upon its enlargement will be capable of lifting any vessel normally arriving at that Gulf of Mexico port.

The pier will be fitted with a 20-ton crane and all services such as water, air and power. In addition to its construction, the company will dredge a basin alongside to permit the mooring of two of the largest tankers. The floating dock was purchased from the Industrial Plants Corporation and was part of a plant at Tampa, Fla.

Completion of the project early in 1949 will place the Beaumont yard in a position to do any type of major repairs. E. C. Rechtin, manager of Bethlehem's Gulf district, in announcing the project, emphasized its importance to the locality. He believes the payroll at Beaumont will be substantially increased upon its completion.

Overtime Pay Problem

(Continued from page 31)

premiuus paid for this "clock overtime" must be included in the "regular rate" of pay and cannot be credited toward overtime pay due under the Wage and Hour Law.

Higher rates paid for "clock overtime" may be regarded as true overtime under certain conditions. Where practice or agreement calls for premium payments for hours worked before or after the employe's regular shift and also calls for overtime pay after a standard number of hours worked in a 24-hour work day beginning at the start of the employe's shift, the premium rates paid for work outside the normal shift hours would qualify as true overtime pay if the employes normally work the specified number of hours in the work day before performing the "clock overtime" work.

Premium pay for work performed on holidays must be included in the regular rate and cannot be offset against any overtime compensation due, according to Mr. Weiss, who gave the reason that the premiums for holiday work are not paid because the employe has previously worked a specified number of hours in the day or week, since holidays as a rule do not fall consistently on any fixed day of the week and even if a particular holiday may happen to fall within hours for which overtime is paid, the premium for the holiday must be included in the regular rate of pay.

INDEX OF ADVERTISERS

EUCLID EFFICIENCY

SPEEDS ANOTHER TVA PROJECT

●Nearly four million cubic yards of earth and rock will go into Watauga Dam, a TVA flood control and power project, near Elizabethton, Tennessee. The dam will have a fill structure 900 feet long and 318 feet high, with a base width of 1,275 feet.

Because of their proved efficiency and rugged staying power, "Eucs" have been widely used for construction of earth-fill dams. At Watauga 26 Bottom-Dump and 15 Rear-Dump Euclids haul earth and rock on a twenty-four hour schedule. A Euclid Loader keeps pace with the speed and efficiency of Euclid hauling equipment by providing fast mobile loading of the Bottom-Dumps.

From borrow pit to fill, "Eucs" haul big payloads at Watauga under a wide range of operating conditions. Of sturdy but simple construction, Euclid equipment gives peak performance day after day at low maintenance cost.

Several new models have been added to the Euclid line of earth moving equipment—write or phone your Euclid distributor or representative for descriptive literature and information.

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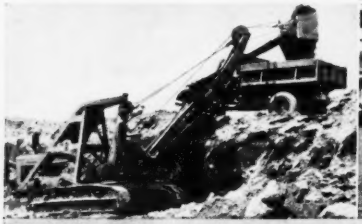
THE POWER GRADERS THAT HAVE EVERYTHING

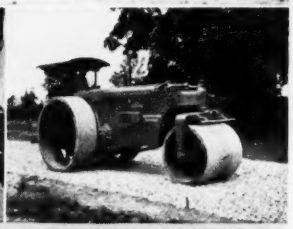
No motor grader without All-Wheel Drive and All-Wheel Steer can hope to equal the all-around operating efficiency of an Austin-Western "88-H," "99-H" or Master "99."

All-Wheel Drive and All-Wheel Steer make it easy for an Austin-Western Power Grader to do a superlative job of bank sloping.



Badger Convertible Shovel. 3/4-swing design eliminates tail swing; makes it possible to use the Badger in close quarters; reduces swinging weight and definitely increases work output.

Model "40" Motor Sweeper. Fast, maneuverable, and economical in operation. No troublesome expensive conveyor or elevator to keep in adjustment and repair—dirt is thrown directly into the 2-yard hopper.



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Portable Crushing Plants. Built in sizes and types to fit every production requirement. Equipped with matching Crushers, Screens and Conveyors, correctly balanced to deliver the maximum amount of crushed and screened aggregate in controlled sizes.

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Tandem Rollers. Variable weight type—in 5-8 ton and 8-10½ ton sizes. Important improvements provide exceptionally smooth and steady performance on precision jobs.

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